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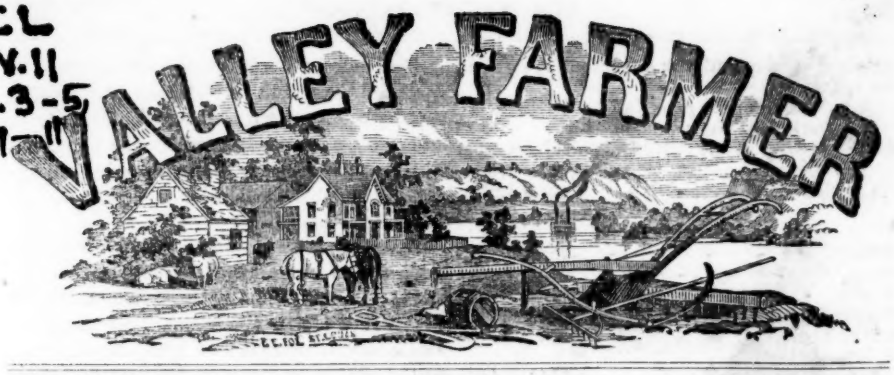

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RICH LAND, RICH CROPS---RICH CROPS, FAT ANIMALS.

The importance of maintaining the fertility of rich land, and of improving the condition of that which is poor, is not sufficiently appreciated by farmers generally. It is considered that a bushel of corn is a bushel of corn, and that a bushel of corn grown upon land naturally poor, or on land that has been worn out by improper cropping, is as nutritious and will make as much beef or pork as a bushel of corn will make grown on rich land. But careful analysis proves the contrary.

While in Lexington, last summer, we called at the laboratory of Dr. Robert Peter, Chemist to the Geological Survey of the State of Kentucky. Dr. P. showed us some corn that was obtained at his request by Sidney Lyon, Esq., Topographical Engineer, connected with the Geological Survey of the State. This corn was grown upon one of the poorest and most worn-out fields met with by Mr. Lyon, in his explorations of the State. The object of Dr. Peter in procuring this specimen of corn, from such land, was to compare the analysis with that of corn grown upon some of the rich blue grass land of Fayette county. The result of these examinations and analysis, Dr. Peter promised to give us for the benefit of our readers, and although it is but the result of a single comparison, yet we think it affords us sufficient grounds to enforce the important fact that it is more profitable to cultivate land well and keep it in a condition of improvement by manuring, &c., than it is to pursue a course that is constantly tending to the exhaustion of the soil.

The corn sent by Mr. Lyon was a yellowish red variety that is considered more productive on poor land than white corn, and withal, is richer in oil than the white varieties generally. Accompanying the corn was the following geological description of the soil upon which it was grown: "The waste of the second sandstone above the base of the millstone grit, the surface of the field being well covered with small fragments from that bed. The corn from 6 1-2 ears weighed 2 lb. 6 oz., averaging about 7 inches to the ear, and these were the best that could be found. Produce about 8 to 12 bushels to the acre."

For comparison Dr. Peter procured five ears from a farm, 6 miles from Lexington, on Henry's Mill road, Fayette county, on the rich land of the Blue Limestone of the Lower Silurian formation. Produce about 75 bushels to the acre, which is below the ordinary yield, the season having been an unfavorable one. The weight of the corn from these five ears was 3 lb. 8 oz. The ears averaged about 7 1-2 inches long each. Weight of the cob, when well dried was about one-sixth that of the corn. The variety was the common white.

We copy the following from Dr. Peter's statement of the analysis, with his remarks:

"The examination of the two specimens, taking equal portions of the meal resulting from

grinding up a quantity in a hand mill, resulted as follows:

(*a*) Corn from the poor field.
(*b*) Corn from the rich field.

In 100 parts of the thoroughly air-dried corn.

	(*a*)	(*b*)
Yellowish oil,	4,6000	5,2600
IN THE ASH.		
Potash,	,2840	,2878
Soda,	,0854	,2204
Lime,	,0052	,0076
Magnesia,	,0713	,1287
Oxide of Iron & Manganese }	not estimated.	
Phosphoric acid,	,3513	,4230
Sulphuric acid,	,0165	trace
Chlorine, not estimated,		
Silica,	,0150	,0250
Carbonic acid and loss,	,1513	,3195
	0,9800	1,4120
Proportion of phospate of lime,	,0093	,0139
Proportion of phosphate of magnesia,	,1984	,3584
Phosphoric acid combined with alkalies,	,1488	,1870

In these analyses only the principal mineral ingredients and oil are noted. The former—the mineral elements—conducing with the so-called *organic elements* of the corn, to the growth of bone, muscle, &c., and the oil to the fattening of the animals fed upon it. The proportion of these *organic elements*, viz: of the carbon, hydrogen, oxygen and nitrogen, were not sought for, because these are not taken from the soil by the plants, but are supplied from the water and the atmosphere, and, consequently, are abundant everywhere, and especially as they are found always in the fixed proportions in the organic matters of vegetable and animal bodies."

So far as this comparison goes, it exhibits a large preponderance of the fattening and nourishing qualities of the corn grown on the rich land. The corn from Fayette county not only gives a larger proportion of oil, which is the most important fat-producing ingredient in the stock fed upon it, and of mineral substances in the form of ash, but the potash, soda, lime, magnesia, phosphoric acid and silica, are all in greater amount in this, and only in the single ingredient, the sulphuric acid, does the corn from the poor ground exceed this in its quantity of essential mineral matter.

Not only does it appear conclusive from these analyses that corn, or other products from rich land, are more nutritious and fattening than the same products grown on poor or exhausted land; but reason and common observation seem to point to the same conclusions, though it is a fact that has hardly entered the mind of but few of our many intelligent farmers. It establishes the fact that it is not only important to maintain the fertility of the soil by manuring and by a proper system of rotation of crops in order to secure the largest possible yield, but also that the crops produced, may contain the largest possible amount of the nutritious and fattening elements.

Dr. Peter, in speaking of the rich "blue grass region" of central Kentucky, on the fertile soil formed by the disintegration of the soft layers of the Blue Limestone of the Lower Silurian epoch, remarks: "I have often had occasion to admire the luxuriant growth of the vegetables, and the rapid and perfect development of the animals raised upon it. Compared with those of the poorer soil of some of the other geological formations, the horses, mules, hogs, cattle and even *men*, and the cats and dogs, seem to be of larger growth, and present a much more thrifty and well fed appearance."

So far as the domestic animals are concerned, which follow more nearly the laws of nature, we believe all that Dr. Peter says is true, and would be equally true with *men* were not their physical condition impaired by a deviation from these laws, and this is evident from a comparison of the present generation of men with those which first succeeded the early settlement of the State.

In regard to the mineral ingredients taken from the soil by a single crop of corn, Dr. Peter remarks: "If it is desired to ascertain from the above data, how much of each of the mineral ingredients of the soil is removed, by a crop of corn, the calculation may easily be made by any one familiar with decimal numbers. Suppose the 100 parts, mentioned in the above analysis to represent 100 lbs. of dried grain, exclusive of the cob, and that 50 bushels, of 56 lbs. each, are produced to the acre; then, 50×56=2800; and the decimal figures given in the statement of the analysis, multiplied by 2800, will give in pounds and decimals of pounds, the quantity removed by a crop of this size, from the acre of ground, in the grain alone, of these essential mineral matters of the soil, *which can only be restored again to it by manures*, or by slow disintegration of the rocks, which produce it.

"But the stalks, the blades, the husks and the cobs, each contain these valuable mineral substances; and if removed, each exhausts the soil of its essential elements. Supposing the stalks, blades and husks be left to decay, or to be fed to animals on the ground, and only the corn and cob to be removed, we can easily calculate how much the ground may be reduced in value, by the removal of such a crop as is supposed above.

"On analyzing the dried cob of the white corn from Fayette county, I find it to yield the follow-

ing proportions of mineral matters, in the 100 parts, viz:

Potash,	0,3588
Soda,	,0065
Lime,	,0024
Magnesia,	,0358
Oxide of Iron & Manganese } not estimated.	
Phosphoric Acid,	,0274
Chlorine not estimated.	
Silica,	,1742
Carbonic Acid and loss,	,3655

Proportion of ash in 100 parts of dried cob - - - - - - 0,9710

"Supposing the weight of the cob to be about one-fifth the weight of the ears, each bushel of shelled corn would leave 14 pounds of cobs, and hence the above figures, multiplied by 700, would give the amounts of the mineral ingredients taken from the soil, in the cob alone, in a crop of fifty bushels from an acre of land. It would be easy to add together the amounts thus obtained, for the grain and the cob, and thus to show how much the land would be impoverished, by the removal from it, by such a crop of corn."

These are most important facts for the consideration of every farmer. Yet it is a subject that will not attract the general attention, as it should; because our farmers have not learned the fact, that without an improved system of culture, their lands will one day be worn out, and the time is rapidly approaching when new land cannot be had. If the estimates from the above facts were extended, showing how much of the organic and inorganic element of the soil are exhausted by a simple crop of corn, and this again multiplied by ten, twenty or thirty crops, it would readily be seen, that the soil injudiciously cropped is fast approaching to that point in which its cultivation cannot be remunerating.

GEOLOGICAL SURVEY OF MISSOURI.

The Fourth Report of the progress of the Geological Survey of Missouri, gives a glowing account of the mineral and agricultural resources of this State. And yet the report cannot be complete. It only deals with what is visibible upon a hasty survey. How many hillsides, and vallies, and prairies escaped altogether the eye of the surveyor. No man can tell what is in this rich and growing State. It is in its infancy now. With the great market of St. Louis within its borders, connecting with all the world by boat and rail, how rapidly its resources must be developed, and to what a strength of greatness it must grow in years to come! The following extract from the report speaks for itself:

An article on the culture of the grape in our own State, and the adaptation of the climate and the poor flinty soils of our Southern highlands, was prepared with great care for the report of the South-west Branch of the Pacific Railroad. By permission of the president of that company, it was incorporated in the United States Patent Office Report, and read before the American Association, and widely circulated in the periodicals of this country and Europe.

These papers, and the Report to the Pacific Railroad Company, contain a large amount of facts showing our vast mineral and agricultural wealth. The facts stated in the Report on the South-western Branch clearly prove the peculiar adaptation of the poorest flint ridges (heretofore deemed worthless) to the culture of the grape; that they are even better for vineyards than any other soils in the State, and that we have at least 5,000,000 acres as well suited to to the culture of the grape as any of the soils of Europe; and that this land in vineyards would be worth $1,500,000,000; that these vineyards if as profitable as those now in the State, would yield an annual income of more than $1,000,000,000, and a net profit of $500,000,000, and give employment to 2,000,000 people. This report also shows the existence, in the counties on that road, of 90 localities of iron ore and two furnaces; 216 localities of lead and 34 furnaces; and 25 deposits of copper and one furnace, besides many of zinc and coal. These mineral deposits alone would be sufficient to render any State famous for its mineral wealth.

CULTURE OF INDIAN CORN--- DRILLS vs. HILLS.

Most farmers, doubtless, think that nothing further can be learned in regard to the cultivation of this great American staple. Of course they are wedded to their early established practices and think them best. But we think we can point to the example of numerous farmers, in various parts of the country, to prove that with proper management the average acreable yield of corn throughout the country can, at least, be doubled; and we feel well assured that with the same labor usually bestowed on one hundred and fifty acres of corn, if applied to one hundred acres, an equal quantity could be produced, leaving a clear saving of the wear and waste of one-third of the land. This would amount to a vast saving in the immense amount of this grain annually grown.

The account we receive of nearly all the large crops of corn that are produced, conform to one important fact, viz: that the drill system was adopted. There is an objection to this method of planting with many, because it does not admit of cultivating both ways. In answer to this objection we will state, that it amounts to nothing, provided the cultivation is timely and thorough; and, without this, a crop to the full capacity of the soil cannot be expected.—Corn planted in drills will admit of more stalks to the acre than when the plants are crowded together in hills; and besides the greater num-

ber of plants that can be sustained, the uniform distribution of them over the ground affords better opportunity for them to develop, and they will produce larger and heavier ears, which will become better matured. With a thorough preparation of the land, which is indispensable to a good crop, whether planted in drills or in hills, and planted with a suitable horse drill, there is a saving of at least three-fourths of the labor, over the old method of laying off and planting in hills. But the drill system will not admit of neglect of cultivation, because the weeds and grass cannot be so easily covered with the plow as when planted in hills. That method is objectionable in any event. Corn should be hilled but slightly, if any. Nature will supply all the needed braces to sustain the plants; and the soil in the middle, between the rows, is needed for the pasturage of the thousand of fibrous rootlets in order to produce a full development of the grain.

The proper method of cultivation is, as soon as the first plants begin to make their appearance above ground, to run a fine-tooth harrow lengthwise of the rows, which leaves the ground in a clean, lively condition, and gives the corn a good start before a second crop of weeds can get under way. The next dressing should be with the cultivator, before the weeds are so large that they cannot be destroyed with this implement; and the several workings should be continued in the same manner, as often as the weeds start, or the rains render the surface of the soil compact. With a good drill the rows may be so regularly dropped that the cultivator can run within an inch of the corn without injury. With this method of cultivation all hilling may be dispensed with, with evident advantage to the crop.

Where a large crop of corn is to be planted, it is not an easy matter to get all the seed into the ground at just that period that will insure the most speedy and vigorous growth. Sometimes it is necessary to commence planting before the ground has parted with its surplus water, and before the soil has become so warm as to give a ready start to the seed. But when the work is not pressing, there is nothing gained by too early planting. Corn cannot grow without something like a summer temperature, and if planted too early, the plants come up yellow and sickly, and remain stationary, while the weeds are getting the ascendency, and increasing the labor of cultivation.

The heaviest crop of corn we ever grew was planted during the first days of June. The ground was in good order, the weather warm, the seed having been soaked, the plants were above ground in five days from planting; the crop continued to grow with great luxuriance until matured; the ears filled well, and turned out at harvest near one hundred bushels to the acre. In ordinary seasons the latter part of April, or the beginning of May, embraces the most favorable season for planting corn.

CULTURE OF POTATOES.

A young merchant, who has recently turned farmer, and located on the Kentucky river, wishes to make potatoes a leading crop, and requests us to give the most approved method for cultivating them. As there may be others seeking the same information, we will briefly give the method we have successfully practiced. The whole process is as simple as that of growing corn, yet one must know how even to do that.

Soil for the potatoes must be naturally rich, or made so by manuring. It is unnecessary to say that the land should be well prepared, for that is essential for all crops, but none more so than for potatoes. With this part of the labor thoroughly done, the cultivation is half accomplished. Clover or sod-land well turned over, during the latter part of winter, or early in the Spring, will generally afford the best crop of potatoes.

In our Western climate the most important requisite (next to good land well prepared) to insure a good crop of potatoes is, to procure the kind for seed that will mature the earliest. Late-growing kinds, when overtaken by our hot, drying, summer sun, soon dry up and die without fully maturing the tubers. Thus far, the Neshannock has proved the best. It is an excellent variety, matures early from the first sets formed, and these are compact immediately at the base of the vines. The Prince Albert is an excellent new variety that matures early in some situations. But a distinguished cultivator, near New Albany, made a trial of them last year, and the yield was considerably less than the Neshannock, although in the eastern States they are very productive.

The best time for planting is early in April. The seed should be cut a week or two before they are to be planted, so that the raw parts may become dried over before planting. The potatoes should be cut leaving but one or two eyes to a piece. The ground should be harrowed immediately before laying off, and the drills opened three inches deep, with a good turning

plow, and two feet, six or eight inches apart, for the Neshannock; for larger growing kinds three feet will be required. Drop the pieces eight inches apart, and cover with a single heavy furrow, or with two light ones from each side. When the first young plants are discovered breaking ground (before they get up), a fine-tooth moderately heavy harrow, should be run lengthwise over the rows, or, if a harrow with suitable teeth is not at hand, use an ordinary farm harrow, back downwards, and run across the rows. This will leave a fresh clean surface and give the potatoes a good start of the weeds. The subsequent dressings should be done with the cultivator up to the last time, when the small plow should be used, throwing a moderate furrow from each side just so as to meet around the tops with slight hilling. It is important to leave the ground as nearly level as possible. The cultivator should be run as soon after each rain as the ground is in good working order until the last plowing is given, and this should be given about the time the plants are in blossom. Late cultivation and hilling, after the tubers have formed, cause them to grow irregular and knotty.

The most economical method of harvesting, and the best implement for the purpose, will form the subject of an article in our June number.

PEABODY'S PROLIFIC CORN.

The corn introduced last season under this name has proved by a number of growers to be a valuable variety. The stalks are short jointed, yielding a profusion of blades, and each stalk, on good land and with industrious cultivation, yielded from two to six and seven ears. The ears are not so long as those produced from the ordinary varieties, when but one or two are grown upon a stalk, yet the aggregate proved considerably greater. The grain is solid and heavy and generally very sound.

Of the origin or history of this variety we know nothing, yet we suspect, as we intimated last Spring, that it is the old Baden corn revived and improved. Be that as it may, it is the result of care and selection and should teach farmers one lesson, viz: that all crops may be improved in quality and increased in quantity by a judicious selection of seeds. The same is verified in the improvement of our domestic animals, and the same law holds good in regard to all vegetable productions. Great improvements might be made in our wheat, oats and other crops, by carefully selecting the earliest and largest heads, that have been produced by some favorable cross.

INVENTIVE GENIUS OF AMERICANS.

The annual report of the Commissioner of Patents, for the year 1858, affords some interesting facts worthy of notice. The whole number of applications for patents filed during the year, amounted to 5,364, and the number of patents issued is 3,668 to American citizens, besides 42 to subjects of foreign governments—a number larger by 800 than was ever issued in any previous year. Since 1842, when but 517 patents were issued, there has been a gradual increase in the number, up to the present time.

Of the 3710 patents issued during the year, 561 were for inventions relating to the great interests of agriculture; 152 of these were for improvements in reaping and mowing machines. 42 relate to the great commercial king, cotton, in its preparation for market; 116 for improvements in sewing machines, making 285 since 1842, when the first patent was issued for this little domestic engine, a machine destined to impart the greatest blessing to frail humanity of any class of inventions yet made.

The report enumerates the operations of the patent laws in the several countries of Europe, with their relative population—making in the aggregate 10,359 patents granted to the subjects of these various countries during the year just closed. Of this large number but *forty-two* have been secured in the United States. This limited number is owing to the unjust discrimination which our patent laws make in charging exorbitant fees to subjects of foreign countries, and thus excluding from our own people the blessings that might flow to them from these numerous, and many of them most valuable inventions. The exact grounds upon which our government has been led to establish this broad discrimination between our own people and those of other countries we are at a loss to perceive, for if the inventions prove valuable, the large numbers who would employ them in our country, would reap greater benefits from them than would accrue in consequence to the individual inventors themselves. Of the number of foreign patents granted, France takes the lead, and numbers 5,820. England comes next with but 1,890.

As an evidence of the inventive capacity of the people of the various States, we give the number of patents issued to the inhabitants of

the several States and Territories, as follows, viz:

New York,	1,075	Iowa,	33
Pennsylvania,	447	Mississippi,	31
Massachusetts,	438	Kentucky,	30
Connecticut,	211	Alabama,	24
Illinois,	155	California,	23
New Jersey,	126	North Carolina,	22
Maryland,	82	Georgia,	21
Indiana,	82	Tennessee,	19
Virginia,	61	South Carolina,	12
Maine,	58	Texas,	10
Michigan,	54	Delaware,	8
Wisconsin,	54	Florida,	4
Dist. of Columbia,	52	Washington Ter.,	4
New Hampshire,	51	Arkansas,	3
Rhode Island,	48	Minnesota,	2
Missouri,	46	Kansas Territory,	1
Vermont,	42	U. S. Navy,	2
Louisiana,	34	U. S. Army,	1

Total, 3668.

CULTURE OF BEANS.

D. T. of Franklin Co. Ky. intends to plant several acres in beans the present season, and requests us to give some general hints on the subject, and enquires whether it is best to plant in *drills* or in hills like corn.

Beans is a valuable crop for the farmer, when properly cultivated. They always command a ready sale, at good prices. The small "navy bean" is generally most sought after, though not so well adapted to our climate, as some other varieties, on account of its continued growth while moisture and warm weather remains, rendering the crop when harvested liable to injury from heating and mould by the unripe vines and pods in wet weather at the time of harvest. If planted from the first to the middle of May they may generally be saved during the dry weather of August.

As to the mode of planting, we consider drilling is always to be preferred to any other not only for beans but for all crops to which this system is applicable, including corn, potatoes, and small grain. For beans the ground should be put in good order: and shallow drills opened with a small plow three feet apart for the navy bean; for smaller growing kinds a less distance will answer. The seed should be dropped so as to average about three inches apart in the rows; they may be covered with the cultivator, removing the centre tooth with great facility.

The large white kidney or Mountain dwarf variety we prefer to the small navy bean. They yield well, mature all at once and can be harvested without any risk of the injury to which the smaller variety is liable, and for the table we greatly prefer them.

The safest and most expeditious method of curing the small kind, which runs considerably to vines, is to pull them when the largest proportion is ripe, and stack them around small poles in the field, first laying some stems or sticks to keep them from the ground, placing the roots to the stakes or poles and letting the tops remain outside exposed to the sun and air: run up the pile in a single tier around the stakes to any convenient hight and tie the roots of the last to the stake where they will dry in a few days in good weather, when they should be got in and secured from the rain.

TANNING DEER SKINS.

As many of our readers are in the habit of killing deer during the Winter, a knowledge of the usual mode of dressing the skins, may be of service to them, as the dressed skins may be turned to many valuable purposes.

The tanning, or dressing, is done in the foling manner: The skins are placed in a barrel of water, with enough ashes to make a weak lye. They remain there until the hair comes off easily with a graining knife, and they are then grained. The skins are then hung up to dry, until hard and flinty, and then they are soaked in rain water with the addition of a little soft-soap; the water being about blood warm. The skins are wrung out, in order to dry them, and after this process the wrinkles are pulled out by hand. They are then placed loosely in a box or barrel, which is put in a kind of trench and smoked with rotten wood or sawdust, for a day or two. They are again washed in rain water, and the process of smoking repeated, and again washed two or three times, until they assume the texture of well-tanned skins.

TO KILL BURDOCK AND OTHER NOXIOUS WEEDS.

The fence corners and road sides often abound with Burdock, Canada Thistle, Jamestown weed and similar unpleasant encumbrances. These may be killed out root and branch by cutting them off at the surface of the ground, or an inch or two below, just at that period when growing with the greatest luxuriance, or about the time they are in full bloom; repeat this a year or two and they will give no further trouble. No attention need be paid to the phases of the moon, but rather to the condition of the plant in its stage of growth.

HOME AGRICULTURAL PAPERS.

We have always felt like saying much we have not said in favor of the encouragement of home agricultural papers as well as home manufacture in general. We have great interests at the West peculiar to our great and growing country, which are not understood by eastern editors and publishers. Our peculiar work we must do ourselves. Our money we want in our own community. Our enterprises need our own encouragement. Our brains are best for our own uses. If we send our money away, we do so much to drain our own pockets, and use other brains to do our thinking. Our soil, our climate, our wants, our condition are best understood by ourselves. We attach a few substantial reasons for taking home papers, which we clip from an exchange:

1. By taking your home paper, you encourcourage home enterprise.

2. You get information concerning affairs in your own community which you could not get through a paper from abroad.

3. It is the medium through which you advertise to the world the nature of the business in which you are engaged—thus bringing it to the knowledge of hundreds who would otherwise know nothing of it.

4. Through its columns you gain a knowledge of the business enterprises of other men—of opportunities for profitable investments, and of selling the products of your own labor and enterprise to the best advantage.

5. It makes known to the world the advantages and resources of the country around you—the moral, social and intellectual condition of the society in which you live.

6. It helps to build up and sustain your schools, colleges, railroads, agricultural societies, and all enterprises for the public good.

7. Your home paper is an institution which the community cannot dispense with—an absolute necessity, which all admit should and must be sustained.

MORRILL'S LAND BILL.

The bill introduced in Congress by Mr. Morrill, of Vermont, granting to each State in the Union, according to the number of representatives, a certain quantity of land for the establishment of agricultural schools and colleges, was passed by both houses of Congress and required only the signature of the President to become a law. But in the exercise of this one-man power, this important measure in aid of the great interests of agriculture has been killed by the President's veto.

A GOOD EXAMPLE.

Mr. M. L. Sullivant, the largest farmer in the United States, is about to set a practical example of what we have so frequently urged upon farmers upon the prairies. He is proposing to plant extensive belts of native trees on his prairie land, for protection, and for the improvement of the landscape, as well as for the ultimate value of the timber: besides deciduous trees, he has ordered *twenty thousand* young evergreen trees to be planted this spring.

LITTLE THINGS.

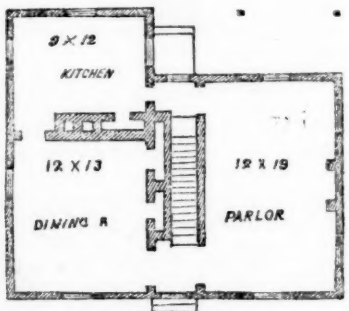
Life as a whole is a great thing—the greatest thing in the whole range of the Creator's works. Yet it is made up of little things. The ocean is great, yet made up of drops; the mountain is great, yet made up of atoms. So of all great things, they are composed of the aggregate of all their little parts. This is the mathematics of all great things, the philosophy of their existence. Jane Taylor made a fable of the clock, which, looking forward to a year's labor and calculating the number of times it would have to tick in the year, got discouraged at once and stopped. But some of the machinery, a little more considerate, intimated that it was an easy task to tick once in a second and proposed that the pendulum should try it. And so after the experiment, all the members concluded that as only one tick was to be made in a second, they would go to work and continue faithful through the year, and thus make up the vast sum of a year's work. And so it is, the little seconds make up the long years. The same is true of fortunes. Dollars are made up of cents. So are eagles; so are fortunes. "Save the cents and the dollars will take care of themselves," simply because the dollars are made up of cents.

We have just read of a man in one of the southern States who built a factory at an expense of $75,000; and after several unsuccessful experiments in running it, failed to make it pay, and so gave it up. Some years after, a shrewd Yankee going that way learned the facts, and after an examination, proposed to the owner to put in $25,000 more stock, and repairs, and take him in as an equal partner—the owner's stock against the Yankee's skill. A bargain was soon struck, and the factory started and paid 25 per cent. per annum. An immense fortune was

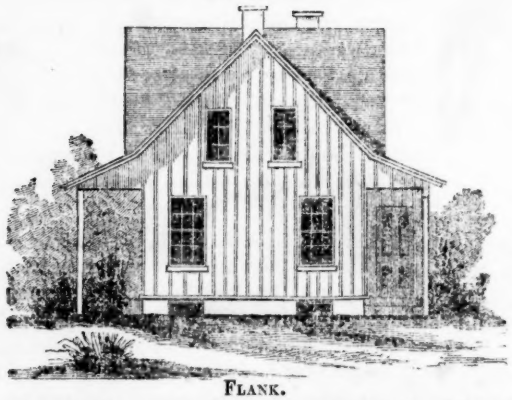
made out of the old dead factory. The Yankee was asked how it was done. He answered, "by attention to the little things. I am always here to watch the little things, to pick up a bunch of cotton, to tighten a screw, to turn on a nut, to regulate a machine, to mend a band, to oil a dry place, and so prevent breakages and stopping of the work. These little wastes of material and machinery and time will eat up the profits of any business. *These little things I attend to myself. I can hire men to attend to the large things.* This is the secret of success in every manufacturing business.—This principle is equally applicable to farming interests. The farmer must take care of the little things if he wishes to have large ones to take care of. The little wastes in a thousand ways destroy the profits. The little savings secure the profits. The little savings of seed, of harvests, of tools, of fences, of animals, of buildings, of expenses, of time, make the chief profits of the farm. How easy from a little neglect to spoil a machine, a crop, a harvest, a building. A rail off a fence will let in a stock of cattle upon a growing crop, which in one night will be ruined. A little neglect will admit the rats to a grain hive, the hogs to the garden, the hens to the wheat field. There are a thousand ways in which a dollar may be wasted by a little neglect, not more than the driving of a nail or a stake. If a harness, or a wagon, or a tool, breaks in a slight degree, mend it at once. Never wait for the evil to increase. "A stitch in time saves nine," saves a rent, saves a government. A nail or a screw in time and place, saves a gate, a door, a building, a machine or a crop. Heavy doors turn on small hinges. Fortunes turn on pivots. Look out for small things. They are the atoms, the drops, that make up the large things. Let farmers learn this philosophy and practice it, and they will be rewarded with success.

PLAN OF A CHEAP COTTAGE.

FRONT.



FIRST FLOOR.



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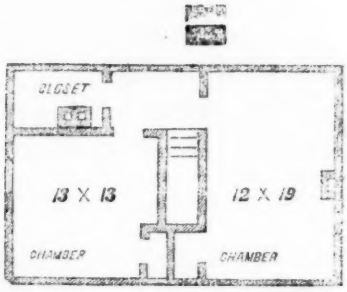


SECOND FLOOR.

Several of our subscribers have desired us to give in the *Valley Farmer* a plan of a cheap and convenient cottage, and the above, taken from that excellent journal, the *Gardener's Monthly*, is the best we have seen. The plan is very simple and requires no explanation. Such a building will cost, in the West, from $500 to $1,000, depending upon price of material, wages, &c., and whether a cellar is made under the whole, or only part of the house. It is very conveniently arranged.

SETTING FENCE POSTS.

The common practice of setting fence posts, is to place them in the ground butt end down; this method gives the advantage of greater stability to the fence on account of the greater size of that part of the post being in the ground; but set in this way it is with the disadvantage of more speedy decay. Posts set small end in the ground, that is, in an opposite direction from which the tree grew, will last in some instances more than twice as long as when set butt down. The cause of this is probably owing to the peculiar nature of the tubes or sap vessels of the wood, in one way they retain the juices of the wood and moisture of the soil, while in the other it passes out more freely.

[Written for the Valley Farmer.]

AGRICULTURE--ITS IMPORTANCE.

BY C. N. BEMENT.

Agriculture is the body, while the other professions are members; and although the body and members are mutually dependent and reciprocally useful to each other, the body can exist without the members much better than the members can exist without the body. For the purpose of comparison, agriculture may be considered as a *trade*, an *art* and a *science*.—The *trade* is mechanical, requiring muscular strength. It is imitative—it is to do a thing as one has been taught to do it before. The ox, in a measure, acquires it. He knows his master and his master's crib. He treads the accustomed furrow, turns at the headlands and obeys the driver's commands.

The *art* implies co-operation of the mind with physical power. The mind contrives; it is a lever which greatly assists and abridges the labor of the hands. The mind, like the soil, makes returns in proportion to the culture which is bestowed upon it. Both are unproductive without culture. The mind is improved by observation and reading, which makes it familiar with the best models of practice, and enables it to profit by the improvement of others.

The *science* teaches the laws and proportions of inorganic matter—as of rocks, earths, manures, &c., &c.; of organic matter, as animals and vegetables; of their structure, food and uses; and the agency of heat, water, air, light and electricity in their development and maturity; the employment and adaptation of these matters for the best uses of man. It contradicts the experience of ages and the labors of nations upon these interesting subjects, and makes them subservient to our wants and our comforts. The science is a collection of facts and leading truths, illustrated in practice and confirmed by experience.

Land and labor are the legitimate sources of public wealth. The first to be productive must be cultivated; and the labor of doing this is abridged by the culture of the mind, which guides its operations.

Without agriculture there is no wealth.—Gold and silver are not wealth; they are its convenient representatives. Commerce produces no wealth—it simply exchanges it. Manufactures and the arts recombine it. Agriculture is the prolific mother of wealth. The rest simply handle it when produced and delivered into their hands. The earth itself, originally, spontaneously produces wherewith to keep the race of man from starving—only whilst he is making ready to till the soil. Without it he soon degenerates into a wild animal, living here and there in small squads, a little superior to other beasts of prey. The earth breeds savages. Agriculture breeds enlightened nations. It breeds houses and ships, temples and seminaries; it breeds the manufactory; sculpture, painting and music are its offspring. It would be folly to speak of the existence, or beauty, or power of any of these things, without agriculture.

The pulpit, the professor's chair, the scientific laboratory, the tripod, the library, the ship, trip-hammer, the loom and the anvil—all would go down in one generation. It is by the superabundant produce and stability of agriculture that all things exist. Nor gold, nor silver, nor diamonds could replace it. The state of husbandry in any country, is the test of its enlightenment. The thermometer of civilization rises and falls as drives the plow. "You must send the plow," exclaimed a man who had traveled all over Christian Missionary ground in heathen lands. A barbarian nation needs but to be plowed up—deep, subsoiled, continued, sowed, planted, and the inevitable harvest will be an enlightened empire. A practical, working agricultural society will dig barbarism, and mental and physical and spiritual poverty out of a nation, as effectually as any powerful grubbing machine will "snake out" the stubborn stumps.

A few centuries ago, a learned writer describes the times in these words: "Rude were the manners then, the man and wife ate out of the same trencher; a few wooden-handled knives, with blades of rugged iron, were a luxury for the great; candles were unknown. One, or at most two, mugs of brown earthenware, formed all the drinking apparatus in a house. Rich gentlemen wore clothes of unlined leather. Ordinary persons scarcely ever touched flesh meat. In noble mansions a little corn seemed wealth."

This is history. Any one of our neighbors, if compelled now to live as the highest and wealthiest of mankind lived in those days—such a neighbor would excite our sympathies. We would consider him as good as starving; would carry in gifts to supply his wants, and start a subscription among our friends to feed and clothe him.

A few hundred years ago and all the wealth of a nation could not buy a loaf of bread, such as you will see on any farmer's table at the present time. The fine flour could not be made. The table of our farmer is much more princely in its furnishing, than was the table of a monarch then. We have now in common use sev-

XUM

eral species of most delicious fruits then unknown. We raise several kinds of grain not then in use. The very word corn, then applied to wheat and barley, is now applied to a grain then undiscovered. Men then lived upon a few vegetables, with flesh on extraordinary occasions; and at their greatest feasts their chief viands were flesh and wine. Their crops, as well as in the palmiest ancient times, rarely yielded over ten or twenty fold. Now a hundred fold is considered a very small return.—Then, as in the ancient world, they gathered the harvest by pulling off the heads, pulling up the stalks, or by almost as slow a process of reaping with the sickle. Compare these methods with the great reaper now in use! that sweeps over acres in an hour and leaves the glorious harvest on the fields of a farm in a day. Thus formerly the patient ox slowly trampled out the grain, week after week; and the winds of heaven and the fan in the hands of the laborer slowly and imperfectly separated the kernel from the chaff and straw. Now, the mighty thresher, with tumultuous whirl, takes into its crushing teeth thousands of sheaves in a day, and scattering the emptied heads, and straw, and chaff in rich streams, the separated golden grain runs out upon the ravished sight, all ready for the marts of trade—for food for man and fowl and beast, and for the hopper and the stones, swiftly driven by the vast and ponderous wheel.—From its mighty pouch comes out flour, white as the driven snow, which makes the kneaded bread better than the fabled ambrosia of the gods.

In short, Agriculture *clothes* all—Agriculture FEEDS all.

[Written for the Valley Farmer.]

SUGAR FROM THE CHINESE SUGAR CANE.

EDS. VALLEY FARMER:—My attention being called, in your December and January numbers, to articles upon the improbability of the *Sorghum Saccharatum*, or Chinese Sugar Cane, ever being available or practical for making sugar, I am induced to give you, and your numerous readers, some further information upon the question, which it appears you have not had, and will no doubt desire to be acquainted with. Having had some little experience in the cultivation of the Sorghum, and also in its reduction to syrup and sugar, and being convinced by actual demonstration that sugar can be made from it as easily as from the common sugar cane, I propose to give my experience as briefly as possible, so that all may be able to accomplish the much-wished-for result—that of making their own sugar.

It is not my purpose to analyze your articles, or to bring into question the experiments of chemists and professors, further than to show it unnecessary to be *either*, to accomplish this result.

Although a vast number have spent their energies and but few been successful, I think the principle, fairly demonstrated, to be more than probable, even if success had been realized only in one instance. There have been, however, numerous successful attempts, and not only good syrup, but good sugar, also, has been made, and I have the pleasure to present you, with this article, a fair sample of sugar in proof of this statement—the process of making which I now endeavor to explain.

I, in common with others, have experimented and failed, but this failure has been due to the want of a proper knowledge, not only of the properties and qualities of the cane, but of the necessary appliances to success. I found the greatest difficulty in making good syrup, and consequently sugar, to be in cleansing the juice. The difficulty was not in the agents used, but in not being able to collect the skim and thoroughly separate it from the juice; for it would invariably, by the ebullition of the liquid, more or less return again into it, before it could be taken off; and when this was the case, the result would not be so favorable, nor the syrup so pure as might have been. I also found that to produce a clear, honey-like syrup, it must be reduced very rapidly, and here was another difficulty, when I wished to reduce a large quantity at a time, as this required protracted boiling, and consequently destroyed its color, as well as flavor. I found that when I reduced down a smaller quantity in bulk, having the surface area the same, that the quality was much better, but this made it more expensive as to fuel, and less economical as to time, while the difficulty of thoroughly cleansing was the same as in all cases.

While cogitating over and wishing some more practical means to accomplish the end sought, my attention was directed by the *Scientific American*, to "Cook's Patent Evaporator," for making sugar direct from the Chinese sugar cane, contained in the patent office reports of that paper. I was induced thereby to correspond with the patentee; the result was, I obtained the privilege of making one for my own use. In its use I found it overcame all the difficulties I had before found, and accomplished all that the inventor claimed for it, as to dispatch, economy in working, and the making of sugar. Perhaps here, I had better give a description of the apparatus, which will at once show its practicability, simplicity and utility.

The "Evaporator" is constructed of metallic sheet, such as protected copper or galvanized iron, being "crimped" into "flanges or folds," with their alternate end turned down, and wood or metallic heading applied, so as to form a continuous transverse channel, about five inches wide, and one and a half inches deep; the surface area being from 3 to 4 four feet wide and 6 to 8 feet long. This evaporator, together with the fire-place, is adjusted, upon a frame work and "rockers," so as to afford a most perfect control over the evaporation.

In operating with this evaporator, having the "rocker," fire-place," &c., properly adjusted upon the wooden frame work, a tub, provided with a faucet, is placed on a bench, at one end of the evaporator. From this tub a stream of cane juice is allowed to flow on, whence it traverses along the transverse channels, evapora-

ting as it flows, and in twenty minutes runs off at the other end of the evaporator in a clear, honey-like syrup.

The fire acting directly upon the evaporation expends its whole force upon the thin stream of juice, which produces almost instantaneous ebullition, at the same time throwing the skum to the surface, the flanges holding it there. As the stream of juice traverses along the channels, by the inclination given to the evaporator by the rockers, an eddy is produced at the angles where the channel is connected. Here the ebullition is somewhat retarded, the angles holding the skum from passing, preventing its return into the juice, and giving the operator all the advantage he needs to take it away.—By such time as the juice has traversed one-third of the evaporator, it is clear and almost free from all impurity. Hence the production of a clear and highly-flavored syrup. The process being rapid and continuous, flowing in at one end running off at the other. In order to make sugar, it is only necessary to prolong the evaporation until the syrup has a waxy consistency, then setting aside in a warm room to granulate, which will take from two to six days. Then put it in barrels or other suitable vessels, with holes in the bottom to drain.—Hence you will perceive that success depends not so much upon a knowledge of the abstract properties of the plant and juice, as upon the mechanical means used and the skill of the operator in the use of these means. These means being acquired; with well matured cane, and the juice thoroughly abstracted, success is a certainty.

I would further remark, that the quality of the sugar will depend somewhat upon the maturity of the cane, although sugar has been made the past season from unripe cane, (as per sample,) still the best matured will give the best results. JOHN J. SQUIRE.

Bunker Hill, Ill., Feb. 8th, 1859.

[For the Valley Farmer.]

PRUNING THE OSAGE ORANGE HEDGE.

The Osage Orange hedge, even if properly managed, will require cutting back some time between the fall of the leaf and the bursting of the buds in spring.

If pruned twice a year, the plan most generally recommended, the summer pruning being done (as it should be) late in June or early in July, it will have made a long strong growth, which must be cut back. Our object in writing this, is to recommend not to prune too early, or not till after the severest cold is safely over, as the hedge is liable to receive injury, if done too early.

We have been in the habit for several years, of pruning in spring, and the stumps left have never received the least injury.

But last season being anxious to get my spring work forwarded as much as possible, during the mild open weather in January, I cut a portion of a hedge of two or three years' growth, requiring cutting within a few inches of the ground. Some circumstances prevented me from doing any more at the time, and soon after the weather setting in cold, the balance was left till March, during which time we had the most of our winter and by far the lowest temperature, the thermometer one morning in February indicating 6° below zero.

The consequence was, that when the buds began to break in spring, a great difference was soon observable in the the two portions of hedge, one being much greener, and seeming to have more foliage than the other. On examining, we soon found that numbers of the buds on the early pruned part were killed, and that but one or two buds on each shoot had started, while those started on the other part were as numerous as usual: hence the appearance and this difference remains, and was conspicuous during the whole summer, the one being thick and the other very thin of branches. From this result I have concluded ever after to leave the pruning of the osage orange hedge till toward spring.

[Written for the Valley Farmer.]

IRISH POTATOES AS A RENOVATOR OF THE SOIL.

MESSRS. EDITORS:—I have found, from personal experience, as well as from the testimony of several of my neighbors, that Irish potatoes act as a great renovator of lands. I have a piece of new ground, which I planted in corn the first year, in hemp the second, and the third year I planted a portion of the same land in Irish potatoes, and the remainder in hemp.—Last season I cultivated all of the same piece of ground in hemp. The hemp which grew on the portion that had been planted with potatoes was at least *two feet* taller than that which grew on the other portion. Will you explain through the medium of the *Valley Farmer*, why and how it is, that Irish potatoes act as so powerful a fertilizer and renovator of lands?

J. C.

Lexington, Mo., Jan. 15, 1859.

REMARKS.—Doubtless our correspondent has read the story of the declaration of the dying father to his sons, that if they would dig in the vineyard they would surely find there a hidden treasure. After the death of the father, the boys set diligently to work with the hope of finding some buried riches placed there by the hand of their loving father. They dug the ground over again and again, but discovered nothing of the promised treasure. But when the season of the ripe fruit arrived, lo! such a crop had never before been gathered. This proved to the sons a satisfactory interpretation of the father's last words, and taught them a lesson not to be forgotten. We might give another similar illustration, but the above is sufficient for our purpose.

During our editorial career we have, on all suitable occasions, endeavored to enforce the

result of our long experience in farming: That without a thorough preparation of the soil full returns in no crop need be expected, and on this ground the practice of the great mass of our American farmers is more at fault than in any other. This practice is the result of cultivating too much land with the labor employed. In England, where land has been under constant cultivation for centuries, the average yield per acre is more than double what it is with the American farmer upon his virgin soil.

The crop of potatoes exhausted considerably more from the soil than it returned to it. Indeed nothing additional was returned, except what little was derived from the atmosphere.—But in harvesting the potatoes a general breaking up of the particles of the soil was accomplished, and then the regular preparation, for the subsequent crop, produced a more thorough division, and left the ground in better order for the crop than was secured to that portion not in potatoes.

The thorough preparation given to land in the cultivation of a crop of tobacco, and the lively, mellow condition the soil is left in, by the over-shadowing of the broad leaves, which serve as a kind of mulching, will sometimes tend to produce an extraordinary crop of wheat immediately following. Other similar instances might be given to further illustrate the subject.

PHYSICAL EDUCATION.

Education is the watchword of our age. We count on the school and the church—one to educate the intellect, the other the conscience—one to promote science and the other morality—as the great instrumentalities in sustaining our civilization, and cherishing our institutions. We feel that they are the headsprings of strength, dignity and honor. We justly regard them as the levers which move the machinery of the world. We do not and cannot over-estimate them. We cannot say too much or give too much, to encourage and promote them. Mind must ever bear supremacy over matter. But while we say all this, we would speak for a wider field of culture. Man is made up of more than mind and conscience. He has a body—a material organism—a marvelous house of beauty—a fibrous, muscular, elastic, compact system of organs, which he uses and must use in all his earth-life, on which he is dependent in a measure for his mutual action and power. This too, is susceptible of educational improvement. It may be trained to marvelous feats of activity and strength. It may be preserved in health and beauty. It may be developed in just and artistic proportions. It may be made a mighty instrument of mind.

It is said by many that our race is physically degenerating. If this is so, it is our fault; it is because we have neglected physical education, it is because we have abused our bodies, disregarded the honor and dignity of muscular strength. We have been gluttonous, intemperate, careless of health and indifferent to the laws of health. We have violated the laws of organic life. We have sowed the seeds of disease in rich food, in irregular habits, in the use of narcotics and stimulants, in late hours, in excesses, in close rooms, in fatigue, exposure, overwork, in ill-assorted marriages, in bad medical agents, in bad fashions of dress, in luxuries and ease, in many things; in relation to all of which, we must change our course, if we would educate properly our bodily organism. We are made to be full of health and strength, and ought to be.—Our sons and daughters should grow up in strength and beauty. Our men and women should be rounded and full in form and muscle, robust and enduring. They should delight the eye of the artist, and enchant the lover of noble manhood, and beautiful womanhood. How can they be such, unless they are physically educated—unless, in obedience to the laws of health and life, they develop their best bone and muscle? To do this we must honor bone and muscle; we must honor the body we inhabit. We must not crucify flesh and blood. We must not denounce physical activity and prowess. We must not degrade the animal portion of humanity, but, in just subserviency, cultivate it and adorn it. Our daughters must count health as the first essential of beauty. Our mothers must rear their children, under the direction of enlightened judgments. Our youth must be trained to manly and womanly sports and labors. From the cradle to the grave, we must make life a school of physical culture. *

[For the Valley Farmer.]

COLIC IN HORSES.

EDS. VALLEY FARMER.—This is a troublesome disease, and annually carries off thousands of horses in the United State. I believe that as many horses are killed by injudicious medicines administered for this disease, as by the disease itself. I am of those who believe in simple remedies, and will give your readers a receipe, which I have never known to fail of curing the worst cases. Dissolve one pint of salt, in warm water, and administer it to the horse, and in two hours time or less the pain will leave hsm and he will be as well as ever. Yours, J. K.

Stock Raising Department.

[For the Valley Farmer.]

BREEDING IN-AND-IN.

EDITORS VALLEY FARMER:—The following communication has been elicited, by reading your notice of "The Ohio Agricultural Report for 1857 (containing an article on Cattle, and the subject of in-and-in breeding," and criticisms thereon, by Cassius M. Clay, Esq.), published in the January number of the *Valley Farmer*.

Although I may not be able to present any new ideas upon this important subject, when so many able men have preceded me, I will state some *facts* that I think are pertinent, which may not be uninteresting to you, and are perhaps unknown to many of your readers, and will leave you and them to judge of their worth. Mr. Charles Collin was the founder of "The improved Short Horn Cattle," (Mr. Clay's opinion to the contrary notwithstanding.) He was an "in-and-in" breeder, and from the best information we have upon the subject, he produced the improved Short Horns, by a judicious system of in-and-in breeding. That Mr. Collin was the first producer of the improved Short Horn cattle, is evident from the testimony of the Rev. Henry Berry (who was a reliable man), who states that Mr. Collin was; and the presumption is he knew, for he was an Englishman, a successful breeder of Short Horns, and knew as much perhaps about the history of "The improved Short Horn Cattle" as any man in England. That Mr. Collin was an in-and-in breeder, is beyond the shadow of a doubt, for he bred the "cow Lady," and she wes bred in-and-in, and from *Lady* has descended, "The improved Short Horn Cattle;" so says Mr. Berry. "Favorite" was also an in-and-in bred animal, he was the sire of the celebrated bull Comet (who sold for one-thousand guineas); he was one of the best bulls Mr. Collin ever owned, and from Favorite has descended more good cattle than from any other bull England ever produced. After Mr. Collin took the cross of the red-polled Galloway, I am not apprised of his ever having bred in a single instance to any other than his own stock, to the day of his sale. If he did not, he must have bred in-and-in to a considerable extent; and yet I doubt whether there ever has been in England since, a herd superior, if equal, to Mr. Collin's.

Mr. Robert Bakewell was the first producer of the celebrated Long Horn cattle, known as the Dishley, or New Leicester breed. He improved these celebrated cattle, and raised them to the high perfection they attained, by *in-and-in breeding, without the use of a single animal, other than the three he commenced with, and their progeny.* And so rapidly did they improve, and so great was the perfection they attained, that they were the wonder of those who saw them, and were considered by many the best cattle in England. Youatt, in his treatise on cattle, speaking of Mr. Bakewell's commencement to improve these cattle, says; "He purchased two long horn heifers from Mr Webster, and he procured a promising long horn bull from Westmoreland. To these and their progeny he confined himself; coupling them as he thought he could best increase, or establish some excellent point, or speedily and effectually remove a faulty one.

"As his stock increased, he was enabled to avoid the injurious and enervating consequence, of breeding *too closely* in-and-in. The breed was the same, but he could interpose a remove or two, between the members of the same family. He could preserve all the excellencies of the breed, without the danger of deterioration; and the rapidity of the improvement which he effected, was only equaled by its extent. Many years did not pass before his stock was unrivalled for the roundness of its form, and the smallness of its bone, and its aptitude to acquire external fat; while they were small consumers of food in proportion to their size."

It will be observed that Mr. Bakewell confined himself to the bull and two heifers, and their progeny, and he must necessarily have bred *closely* "in-and in". Mr. Bakewell had a celebrated bull called Twopenny, a calf from the bull and one of the heifers he commenced with; but Youatt says, Mr. Bakewell had afterwards a more valuable bull than this, named D. He was got by a son of Twopenny, out of a daughter and sister of the same bull, she being the produce of his own dam. D, you will notice was bred as *closely in-and-in as he well could be*, and nevertheless, he was a more valuable bull than Twopenny, who was the produce of the first cross. D, was perhaps the most valuable bull Mr. Bakewell ever owned; and retained his vigor in an extraordinary degree, for it is said of him, "At the age of 12 or 13, he was more active than bulls usually are at three or four years old." Here is proof positive, that Mr. Bakewell bred *very closely* "in-and-in," and that too, not only *without injury*, but with *absolute benefit*. Mr. Fowler was another celebrated breeder of long-horns. Youatt, in speaking of Mr. Fowler's stock says: "And his bull Shakspeare, the best stock getter that the long-horn breed ever possessed, was got by D, out of a daughter of Twopenny;" and notwithstanding D, was so *closely* bred," in-and-in," he got Shakspeare on his aunt, and he was the best *stock-getter* the long-horns ever had. So much for cattle breeding in England.

Mr. Jacques an intelligent and enterprising gentleman of Charlestown, Mass. wished to possess a breed of cattle, that would excel in milk and butter; and none of the breeds around him, coming up to his standard of excellence in these respects, he concluded to try and form a breed with these valuable qualities, and he succeeded in a very eminent degree.

The following extracts, giving Mr. Jacques' mode of operation and history of his stock, are taken from Mr. Colman's Second Agricultural Report, and were published in the Northampton (Mass.) Courier, and republished in the Franklin Farmer. Mr. Jacques says: "It has been my object to effect such an improvement in milch cows, as should produce the greatest

quantity of butter. There is a greater difference in pecuniary profit between a good or poor cow, than among any other domestic animals. In some yards there may be found, those which will not produce their three pounds of butter per week, and others that would make nine and all at the same keep. As we sometimes hear of cows which produced seventeen pounds of butter per week, and even more, it occurred to me to enquire if a breed or race could not be formed with the same valuable properties. This I have attempted; and have carried it to the third generation, and am confident of success. I have a cow, whose milk has produced nine pounds of butter in three days, and this on grass feed only. This I call my cream-pot breed. I have bred my cream-pots, with red or mahogany-colored hair, yellow noses, with mahogany colored teats, yellow skins, silky and elastic to the touch. I have obtained the breed, by a cross of a Durham short-horned bull, on a selected native cow, with certain extraordinary points and properties, anxious to retain as much of the form of the Durham, as to insure capacious udders, and with the valuable property of affording rich milk." "My cream-pot breed are full in the body, drop deep in the flank, are not quite straight in the belly, nor so full in the twist, nor as thick in the thigh, but in other respects I wish them to approach the Durham as near as may be. My cream-pot breed excel, particularly in affording a great quantity of rich cream, and that cream capable of being formed into butter in a short time, and with little labor, leaving a small quantity of butter-milk. The cream produces more than eighty per cent. of pure butter; and it is not infrequent to form the cream into butter in one minute." "I have a heifer designated as Betty cream-pot, one of the third generation, which produced her first calf at two and a half years old. Mr. Brown, my foreman, made the following experiment upon her milk, without my knowledge at the time. After milking, he took two quarts of milk out of the pail, and having strained it into a pan, allowed it to stand twenty four hours. Having then skimed the cream into a bowl, he churned it with a table spoon; and in one minute by the clock, he formed the butter. It was then pressed and worked in the usual way, and amounted to half a pound of pure butter." "I have forty cows and heifers, ten bulls and bull calves of different grades of this cream-pot breed, and all bred by myself. I keep my bulls selected as breeders, until I have proof of the quality of their offspring. My old cream-pot bull is ten years old." The question naturally arises, How did Mr. Jacques make this extraordinary cream-pot breed? He tells us he obtained it, by crossing a Durham bull on a native cow, and he must have bred *closely* in-and-in.

Now is it not remarkable that these two gentlemen, Mr. Bakewell, in England, breeding for beef, and Mr. Jacques, in America, breeding for milk and butter (by the way, the great objects for which all cattle are, or ought to be bred), should have obtained such extraordinary results by this *injurious system* of "in-and-in" breeding? A system which produces "idiocy, blindness, want of constitution, disease and impotency." I will glance at another American herd and pass on. I allude to the herd of Col. John Hare Powel, of Powelton, near Philadelphia, one of the best, if not the very best, that has ever been in the United States. Many of Col. Powel's cattle were bred "in-and-in."

The best calf I ever owned, and one of the best I ever saw (and for which I had the solid satisfaction of realizing $600 at ten months old), was the produce of a *brother and sister*, and they were the calves of a bull out of two of his aunts. I could mention many other individual cases, but it is unnecessary. I think enough *facts* have been presented, to prove that "in-and-in" breeding is not always productive of evil, even when done closely.

In his criticisms, Mr. Clay says, "1st. *Breeding in-and-in*, that is to say, breeding to dam or sire or near of kin, has been too fully discussed by some of the most intelligent men of this country and England, for further argument." I am well aware that in-and-in breeding, has been, and still is, a controverted question; that it has been debated by some of the most able men in England and America; and although what I may write shall not add one single ray of light upon a subject, already so fully discussed, nevertheless, "*facts* are stubborn things," and *facts, practical results*, are what farmers and stock-breeders want. Intelligent men may write beautiful *theoretical* essays on farming and stock-breeding, as well as on other subjects, and if Mr. Clay intends to convey the idea that there have been enough of these essays offered to the farmer and stock-breeder, I agree with him. It is *practice* we want *now*, not theory. In enumerating the advantages of "in-and-in" breeding, Mr. Clay says: "Its advantages are, 1st. It reduces the bone, and gives to a certain extent more firmness and symmetry. 2nd. It produces a tendency to early maturity." Notwithstanding Mr. Clay so strongly censures the system in the above quotation, he admits, I believe, all its advocates claim, and all the breeder wants, viz: firmness of bone, symmetry of form and early maturity. These are the three great objects the intelligent breeder most desires, the three grand results he labors to obtain. If it is a *fact* (and I do not doubt it), that "in-and-in" breeding produces these three grand results, then I assert, that in the hands of a judicious breeder they will *overbalance* even Mr. Clay's formidable array of disadvantages, *with a few more added*.

In your editorial, the following extracts are found: "In the article referred to, in the Ohio Report, the assertion is made that the Colling's [Collins'], of England, were the first producers of the improved Short Horn Cattle. To which Mr. Clay says, it is all ridiculous, and maintains that the Short Horn cattle are a *primitive race*, as distinct in characteristics, from other cattle, as the white man is from the red or black man." If Mr. Clay intends to assert that the *improved* Short Horn cattle are a primitive race, I will not be so discourteous as to say it is

"ridiculous," but I will say he is much wider of the mark than is the assertion he ridicules. The improved Short Horn cattle are as distinct in many of their characteristics from the primitive Short Horns, as are the *Chester* and *Berkshire* hogs from the *Land Pike*. The Rev. Henry Berry in his account of the native Short Horns, says: "They are generally of large size, thin-skinned, sleek-haired, bad handlers, rather delicate in constitution, coarse in the offal, and strikingly defective in the substance of the girth in the fore-quarters." "When put to fatten, as the foregoing description will indicate, were found slow feeders, producing an inferior quality of meat, not marbled or mixed, as to fat and lean; and in some cases, the latter was found of a particularly dark hue. *Such, also, are the unimproved Short Horns of the present day, and the distinction cannot be too frequently asserted, because they are, in many cases, considered as specimens of the improved breed,* and have actually been resorted to in trials as to the comparative aptitude of animals to fatten—trials which it is evident they could not successfully sustain." The above quotations are from Youatt, the italics are mine.

Now, Messrs. Editors, if you or any of your numerous readers can make the *primitive* Short Horns, as described above, and the *improved* Short Horns *identical*, I will submit.

In the presentation of these facts I do not wish to be understood as the advocate of indiscriminate "in-and-in" breeding, nor of *too close* breeding, that is, to sire or dam, when it is avoidable; but I do contend that a *judicious* system of "in-and-in" breeding is the *principle* upon which all our improved breeds of stock have been produced, and the true course to be pursued if we wish to further improve them, or even to keep them up to what they are. By judicious system, I mean a *wise* coupling of the sexes, sedulously guarding against the crossing of animals that are *defective* in the *same points*, always selecting such as excel in those points where the other is *defective*. In a word, that system which meets the ends desired.—Any farmer has, or soon may have, a herd, numerous enough to interpose a cross sufficiently remote, to prevent any evil that might arise from breeding *too closely*. When he breeds from his own stock he knows their *perfections* and *imperfections* for generations, and can decide at once whether or not it would be *wise* to couple certain animals. It is not so with the breeder who crosses frequently, and very often with bulls he knows nothing about, except what he *sees*. He may get a bull that is pure in blood, and good in all his points, and yet his sire, or dam, or some more remote ancestor, may have been *defective* in the very point he wishes to improve in his cow; if so, let him cross this fine bull on his cow, and ten chances to one, the calf is *more defective* than the dam. How often is it the case that superior *looking* bulls are introduced into herds of good cows, without any perceptible improvement in the calves.

We live in an enlightened age. We have the experience of all the intelligent breeders who have preceded us. We have thousands of fine cattle and other kinds of stock diffused throughout the land, where breeders can get crosses without breeding "in-and-in." We have our luxuriant pastures and meadows, and our well-filled corn cribs and barns, and yet, with all these advantages, I ask, Why is it that that there has not been a corresponding improvement in our stock? That there has not been an improvement commensurate, with our advantages, is obvious to any intelligent observer. I grant there are a great many specimens of fine cattle and other kinds of stock, but not a *tithe* of the number there ought to be. And I verily believe that the *fruitful cause* of our slow progress in improvement (if not actual deterioration), is attributable, in a great degree, to the indiscriminate crossing system.

At the head of your article, the question is asked, "When Doctors disagree, who shall decide?" I answer, *let facts decide*. W.

Calloway Co., Mo.

ERGOT IN BLUE GRASS----"HOOF AIL."

We see frequent accounts of disease in cattle, caused by eating hay made of Blue Grass, in Ohio and Indiana; in the Western Reserve it is of very common occurrence, frequently causing fatal results. The entire circulation seems to be affected in cattle that have been fed on the diseased hay; the hoofs frequently come off, which in many instances have been attributed to the effects of frost, as these results have often been known to follow extreme cold weather. The feet of the animals may have been frozen, but it undoubtedly has been caused by want of the usual circulation in the extremities, in consequence of the generally diseased action of the entire system resulting from this poison.

What at first seems a little remarkable, is the fact that in all the blue grass sections of Kentucky, this fungus is not known upon blue grass at all. In former years we have bought and sold thousands of bushels of this seed, the most of which was cleaned, or separated from the stems under our own observation, and we have never met with a diseased or spurred head. In order to ascertain more fully, whether, in former years, spurred blue grass had ever been known in Kentucky, or any evil effects have been known to occur from pasturing cattle upon it, we addressed a letter of enquiry upon the subject, to Robert W. Scott, Esq. of Franklin, Co. Kentucky, who is one of the most intelligent and observing farmers in the State. His answer fully confirms what we have stated above, viz: that the disease is entirely unknown in this State. We can account for its frequent occurrence on the Western Reserve, and upon lands along the lakes, in Ohio and Indiana, from the character of the

soil of those regions, being flat and wet, and consequently unsuited to a vigorous, healthy development of this variety of grass. Blue grass makes at best but a light, poor hay, being adapted only to pasturage, for which purpose it is unsurpassed by any other variety of grass, where the soil is adapted to its growth. If our northern friends would employ Timothy and clover for hay, and feed off their blue grass, turning their stock off for two or three weeks after the seeds have formed, until the seed stems fall to the ground, if spurred heads are discovered, no bad effects would result to the stock.

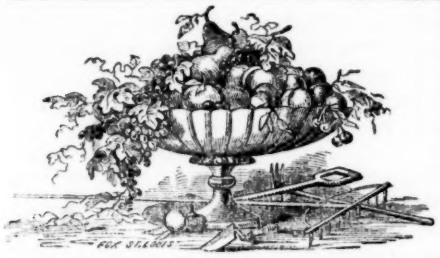
In a late number of the Ohio Farmer a very perfect engraving illustrating a head of blue grass, with a number of spurred grains, is given. These grains are not unlike those frequently found in rye. The direct cause of this disease or unnatural developement of the grain, with our present information, we are unable to assign. It occurs more frequently in some seasons, and on some soils than others. The diseased seeds are elongated and enlarged two or three times beyond those in a healthy state, and are without the vital or natural vegetating principle.—We will here take occasion to correct an error into which our worthy friend of the Ohio Farmer has fallen in his description and illustration. He alludes to the white cottony substance found attached to the seed of the blue grass in the head, which he says is *doubtless fungoid* and that *it does not appear at the base of the healthy seed.* This cottony substance is found in all blue grass seed grown in Kentucky, and is as much a part of a healthy head, and is as essential to the seed, as the fiber that envelopes the seed of the true cottony plant.

TRANSPORTING CATTLE BY RAIL ROAD.

Not long since we alluded, in the *Valley Farmer*, to a large verdict, rendered in Chicago, Ill., in favor of a cattle drover, against the Michigan Central Rail Road Company for delay of the cattle on the road, twenty-four or thirty hours beyond the time stipulated in the agreement, and the consequent loss to the owner from the death, in part, and injury of others of the cattle. From the weekly reports of the sales of cattle in the New York and other eastern markets, it will be observed that the largest proportion of the beef cattle, to make up the supply for these markets, are from distant States, brought by rail road; and the largest share of these are from Western States, many from beyond the Mississippi river. Under the present arrangements no provision is made by the rail road companies in the construction of their cars that will admit of feeding, and not even watering the cattle. When once they enter the cars they are compelled to suffer in hot weather under the most intense burning sun, without the opportunity to move or to obtain a draft of fresh air during their imprisonment for ten, twenty or forty hours in succession; and if in consequence of any accidental delay, this time is still prolonged, the cattle, when they arrive in market, are in an exhausted, enfeebled, feverish condition, from which no opportunity is afforded them to recover. Indeed, this, in most cases, is impossible, but they must be sold, and submitted to the knife at once. It cannot be denied that the beef from cattle treated in this way is unhealthy, and calculated to result in serious consequences to those who are confined to its consumption in cities. These evils, in a great degree, may be relieved by an improvement in the construction and arrangement of the cars, so as to admit of giving water to the stock, if not feed. This will require no great inventive skill, but its necessity and importance should be made apparent to the rail road companies, and an improvement demanded by the owners of stock who seek this mode of transportation.

It would be an easy matter to arrange a kind of narrow trough along the side of the car, either inside or out—if outside, with an opening sufficiently large to admit the heads of the cattle—and at each watering station for the engines, these troughs should be filled by a hose from the tank. After the cattle have satisfied their thirst, the opening may be closed in order to guard the cattle from injury from any object without while the cars are in motion.

The transportation of cattle by rail road has now become a most important part of the freighting business, and with such improvement in the construction of the cars and the management of the stock as the good of the community, and the health, comfort and well-being of the animals demand, it will still greatly increase. And we believe that the subject only requires to be agitated that the improvement demanded by those interested may secure not only great benefits to the owners of stock and the public at large, but to the rail road companies themselves.



Horticultural Department.

THE CLARA GRAPE.

This is one of the new seedling grapes of great promise. It is illustrated in the February number of the *Horticulturist*, and has been previously described by Dr. Brinckle as "Bunch medium; berry medium; round, green, faintly tinged with salmon when exposed to the sun; flesh tender, juicy; flavor rich, sweet and delicious; quality best." It ripens in September. The Clara originated in the garden of Mr. P. Raabe, Philadelphia. Mr. R. gives the following in regard to its origin: "The historical part of our Clara is a hard matter to make out, as we do not know the parents of that vine. It is a chance seedling as it came up in the middle of the box edging. The first leaves had a very rough appearance, and several times I had a notion to pull it out, but fortunately left it untouched, out of real neglect; and when it became more firmly established I had to bend it down and let it come up more on the inside of the edge as the branches were too much in the way. The first few berries made their appearance in 1853. Since that time it was mostly left to itself, and it made rather a wild growth until this year when it turned out in its full strength."

Mr. L. E. Breckmans, a distinguished fruit grower, formerly from Belgium, remarks of this variety: "We have the Clara as a precious addition to our still short list of native varieties of great merit. The fruit is tested and stands high indeed. * * * Like all seedlings from foreign grapes, the young plants will require more care and time to come to the native standards: the only *perfectly* hardy and most vigorous grape vines seem to belong to the order of Fox grapes. *The more the fruit recedes from the original type, the more care and attention the vines will require;* but that can be no objection to the raising and the propagation of luscious grapes. *All the most delicate and rich fruits are subject to the same law;* and those alone will reap the best crops and the finest fruits, who pay the proper attention to their cultivation."

We place the above sentence in italics, because it embraces the principle which we have for a long time believed in, but which we never before saw advanced by any horticultural writer. Our experience and observation have satisfied us of the truth of the position here taken. With the confirmation of one of such large experience as Mr. Breckmans we think the doctrine assumed need not be doubted.

VALUE OF FRUIT IN A SINGLE STATE.

At a meeting of the Legislative Agricultural Society of Massachusetts, the subject of *Fruits and the Culture of Fruit Trees*, was introduced for discussion. The Hon. Marshall P. Wilder being called to the chair, opened the discussion with some arguments showing the value of fruit growing in comparison with other products of the soil, and the progress that had been made in fruit growing in that commonwealth within the last fifty years. He stated that the crop in that State in 1845 was valued at $700,000. In 1855 it was valued at 1,300,000. In 1860 it could not be less than two millions of dollars—more than the value of the wheat, oats, rye and barley in the State. One gentleman had stated that he had an opportunity of judging; said that he saw more choice fruit at one of the Boston exhibitions than he saw at twenty in Europe, whereas, in Germany, the greatest encouragement had been given to pomology by the government. He stated that the pear crop in that State was valued at $100,000 per annum.

We introduce these facts to show what can be done, and what is done in this important and interesting department of horticulture by persevering and enlightened cultivation, even in a fitful and severe climate, and on a soil naturally rocky and sterile. No cultivator of fruits or other crops in that State expects to meet with any suitable return for his labor without first, a proper preparation of the soil, guided by an enlightened understanding of nature's requirements in the growth and development of all crops. And in this, the first step is to drain the soil, so as always to free it from an excess of moisture. This condition Col. Wilder insisted was an absolute associate of success. The next condition, is a selection of soil best adapted to the various kinds of fruit to be grown, and

of thorough manuring of the right kind, and thorough and constant cultivation.

Now what is done under all the natural disadvantages in Massachusetts may be done at less cost, and in a much greater degree of perfection, in thousands of other parts of the United States, where nature has been vastly more liberal in bestowing the elements of success. It is true, that in consequence of frequent unseasonable warm spells during winter and early spring, so often followed by severe, late frosts, in this section of the Union, our fruit crops are liable to be killed; yet such are the advantages in our favor from the most generous and fertile soil, and genial climate (with the exceptions we have mentioned), that in the perfection, richness, and beauty of our fruits, those of Massachusetts can bear no comparison.

By selecting suitable locations, and adopting a system of thorough preparation of the soil, of drainage and trenching &c., as practiced by experienced fruit growers in other sections, and by selecting those kinds of fruit best adapted to particular localities, the casualties to which we have referred, may be in a great degree avoided.

STRAWBERRIES.

Everybody loves strawberries; they are the first and the best fruit of the season, of any country, and everybody who has a garden can have them in profusion if they will; they require no more skill or labor than to grow properly a crop of potatoes. Those who own a garden and have not the refinement of taste to cultivate strawberries do not deserve to enjoy such a luxury. A small bed of two rods will furnish an ordinary family a full supply for twenty days, and afford an abundance to preserve for use during the remainder of the year.

The recent introduction of a number of new and valuable seedling strawberries, perfect in their blossoms, has removed all the necessary care and trouble of selecting plants of opposite sexes, so that any one of these kinds will give a full crop the following spring after planting.—The spring is the only suitable season for setting out the plants. Any time during the month of April will answer, but the earlier the better.

In planting strawberries a clean piece of ground should be selected, and well dug up; and if it requires enriching, apply rotten straw, or leaf mould from the woods, which is free from the seeds of weeds. The plants may be set in rows two feet apart and the plants twelve inches apart in the rows. Keep the ground mellow and clear of weeds during the summer, and the young vines will occupy the whole ground; but it is best not to have the plants too thick: and after the runners have extended so as to give a plant to about every six inches it would be better to clip the runners; but if this is not done in the growing season they may be suitably thinned early in the spring. The largest strawberries that are grown are on plants set in rows eighteen inches apart, which are allowed to spread until the rows are filled; keeping spaces between the rows open by cultivation, and clipping the runners during the summer. The best and largest fruit is grown on the new plants formed by runners of the previous season's growth. To cultivate in rows requires more labor, yet it is a labor well repaid to every lover of the garden.

One of the most productive kinds that has been introduced, is Wilson's Albany. The berry is large, and of a fine color, and has proved successful in every section of the country where we have heard of its introduction. It was originated at Albany, N. Y., by Mr. Wilson (whose name it bears), a successful gardener and nurseryman.

The Hooker is also another large, productive variety of superior flavor, advertised by the proprietor in this number of the *Valley Farmer*. Longworth's Prolific is another of this class, and succeeds well in some places. For a list of the pistillate kinds and the mode of planting, we refer to the April number of our former volumes.

THE PEACH WORM.

The greatest enemy to the peach tree is the borer or white grub, that infests the root near the surface of the ground. With a little timely labor, we have never suffered any material injury from this insect. An inspection twice a year, occupying but a few hours, will suffice to go over an orchard of a hundred trees, and remove every worm. This being repeated with regularity each year, a great increase is cut short. We usually employ a gardener's trowel and a pruning knife. Every tree that is infested, if with but a single worm, shows unmistakable signs of its presence by the gum and saw-dust-like excrement mixed with it, that issues from the wounded bark. With the trowel remove the earth an inch or two below the surface, and with the knife cut away the dead bark where the injury appears, and after a little experience no one need fail to discover the enemy in every instance. The worm is very tender and readily

killed. This examination should be attended to early in Spring. The eggs are deposited in June, and if an examination is made in October the young worm may be found near the outside of the bark, and may be destroyed by simply rubbing the freshly eaten spots on the bark on the outside.

THE GREAT FRUIT VALLEY.

"There is a destiny that shapes our ends rough hew them as we may." So there is a destiny for countries, States and localities. There are regions for the palmetto and the pine, for the cotton and the cane. There are valleys for some rare plants, and mountains for others. "There is a time and place for everything." Somewhere in our country there are yet to be immense orchards. Some regions are to be given to fruit, as some are now given to corn, cotton and sugar. This is the manifest destiny. On the North of us are thickly settled States, populous cities, numerous towns, in a latitude too cold for fruit. The people love fruit and will have it, if it is to be had. Somewhere there must be orchards for them. Where shall they be? Evidently as near the place of consumption as may be. Our latitude—the latitude of St. Louis—is that place. For fruit, we must have both climate and soil favorable. Bottom lands and prairies, are not best. Hilly, broken and rolling land is best. Such we have in this region. Southern Missouri and Illinois, broken, high, rolling—a sort of spur of the Ozark mountains—reaching out as if to embrace the vast, rich prairies—is one vast fruit field in prospect. We may well doubt, whether sunny France or balmy Italy, is better adapted to fruit culture. In that "good time coming," when fruit shall be on every table, even when the "widow and the fatherless," shall enjoy its luscious feasts, will not our southern slopes be covered with the grape, the peach, the pear, the apple and every other fruit, which the climate will produce? It seems to us inevitable. Fruit must be one of our constant and readiest luxuries, and greatest articles of export. Up the rivers and up the roads, our children, and children's children, will send their fruit, green, canned, dried, to feed the Northern hordes. So it must be. Let the orchards be planted. Let the choicest fruits be gathered. Let the people learn all that may be learned in fruit culture. Let amateurs experiment, and lovers of "good things" give heed to the best ways of raising fruit, that we may be ready to supply the market in the years to come.

HOW TO LAY OUT A GARDEN.

Intended as a general guide in choosing, forming, or improving an estate, from a quarter of an acre to a hundred acres in extent. By Edward Kemp, Landscape Gardener. New York: Wiley & Halstead.

This is a verbatim reprint of a recent English work, on the subject of Landscape Gardening. It has met with much favor, both in that and this country. And, to our mind, notwithstanding the various works that have appeared both here and in Europe, this one occupies a position of its own, and deserves a place in the library of every gentleman of taste, who has garden improvements to effect, and a home to adorn and beautify.

It is less diffuse, and, as we think, less abstruse, than the larger works of Repton, Loudon and Downing, i. e., on the general art of Landscape Gardening. It is, however, very elaborate on some points, and descends more into the minutiæ and details of "how to lay out a *garden*." And being principally devoted to those of limited extent, such as more properly come under the denomination of suburban gardens, it is rendered still more valuable to the improvers of our country.

As yet the examples of high-style gardening with us, are chiefly confined to the neighborhood of our large cities, and are mostly moderate in extent, as is most consistent with our means and republican institutions. And we confess to the belief, that a small place, well laid out and well kept, is infinitely preferable to a large area, but half planted and still more slovenly taken care of. In this respect the English are far ahead of us (with few exceptions). The green, velvety, well-dressed lawn, the gay parterre, the broad, smooth walks and neatly-trimmed edgings, the brilliant masses of the geometrical flower garden and clumps of gorgeous flowering shrubs, the long list of hardy, broad-leaved evergreens, with their immense variations in flower and foliage, are all usual accompaniments of a moderate sized English garden.

And although our climate will not allow us to reproduce all these beautiful features here, still the laws and principles which govern taste, and which go to produce the graceful and beautiful, the picturesque or sublime, in nature or art, are the same here as there. And this work cannot fail to assist those that study its pages. Lists of plants are given for certain positions, &c., which are entirely intended for the English climate, and are most of them unfit to be planted in ours, being too tender. This caution is made in the American publisher's preface, who

thought best to reproduce the first edition without alteration, which will probably be made in subsequent editions. And this point we especially ask its readers to bear in mind, or failure and disappointment will surely be the result.

The author appears to have treated the subject of arboriculture but lightly. This is a subject which future American editors will find it necessary to enlarge upon. The varieties of shrubs, suitable for our climate, especially evergreen, being so limited, and the varieties of trees being so profuse, the latter will have to be used here freely, as substitutes for the former.

We cannot here help remarking that in reading over his lists of trees, shrub, &c., we recognize very many old and admired friends: some that we know, he omits; others are new to us. But familiar plants are recalled to our mind, which a seven years' absence had almost made us forget, and on looking around us and observing the sparsity of similar plants here, we are disposed to sigh, with P. Barry, in the *Horticulturist*, "Oh, for the Hollies, the Laurels, the Rhododendrons, that flourish so gaily in England, and give such charms to the country landscape."

BLIGHT IN PEAR TREES---HOW TO MAKE THEM BEAR.

In answer to these several queries, we will state that the pear tree blight is rather a mysterious disease. A dry, or well-drained soil, of the character best suited to the pear, is important as a preventive. When trees are attacked, the most effectual treatment is to cut off all the diseased branches, as soon as it makes its appearance, and burn them, always cutting below the last mark of disease. Had our correspondent named the kinds of pears that have failed to bear, after making such rapid growth, we could better judge whether their tardy fruitfulness was peculiar to the varieties, or to some other cause. Sometimes the trees make wood so vigorously that they fail to bear, and it is frequently the immature growth of these vigorous trees that is most liable to the attack of blight. We have found judicious root pruning of essential service in such cases, and which resulted in speedy fruitfulness. To root prune, remove the earth around the tree, being careful not to bruise or wound the roots, and either sever the tap-root a foot or more below the surface, or cut off each alternate lateral root around the tree a foot or eighteen inches from the body, according to the size of the tree. This will check the wood-producing tendency, and cause the formation of fruit spurs. The wood will mature more readily, and render it less liable to the attack of blight.

[For the Valley Farmer.]

THE SWEET POTATO---ITS CULTURE.

EDS. VALLEY FARMER.—If this article on the cultivation of the sweet potato is acceptable, you can give it a place in your valuable paper. As it may afford some instructions to the young and inexperienced, in the growth of so valuable a root, and as the time for making the necessary preparations is near at hand, the sooner it is published the more acceptable to such as want to plant the potato the present season.

The sweet potato is one of the most popular of edible roots, and its culture imperfectly understood, only in those sections of the country where it is grown for market and for profit.—Perhaps there is no section of country, where the cultivation of the sweet potato has been reduced to a more perfect system, than on the Islands in the Chesapeake Bay, and the lower counties of Maryland, and Virginia bordering on the Bay.

The sweet potato is grown on all soils sufficiently dry, but a clay and sandy loam, where sand predominates, with a clay subsoil, is preferred. It is better to select for a potato patch a loose light soil, that is not liable to pack, after heavy rains. Where the soil is naturally stiff, and liable to pack it can be improved in texture by covering the ground with a compost made of decayed leaves and mold from the woods, mixed with decomposed barn-yard or stable manure. The quantity of the manure used should depend on the quality of the soil. Fine rotten manure is always to be preferred. When the soil is deficient in lime, an application of 20 to 30 bushels air-slacked lime, to the acre, is recommended to be applied to the soil, and harrowed in previous to applying the compost.

If convenient, the compost can be made the latter part of summer and applied to the field in the fall, or early in winter, spreading it over the ground from 2 to 3 inches deep, to be plowed under the first favorable time when the ground is in good condition for the thorough pulverizing of the soil. The ground should not be plowed more than 3 inches deep, only enough soil with the compost to form the hill, which should be small. From many years experience, it has been shown that more marketable potatoes can be grown on a field where the hills are small, and the soil below the hill is firm. When the ground is plowed deep, and the soil below the hill is deep and mellow, the potato grows long and slim, frequently unfit for market or the table. Whereas, if the soil below the hill is firm, the root instead of penetrating the hard soil, will grow in circumference, which gives it size in girth, without great length, which makes it a marketable potato. At suitable times before the sprouts are ready for transplanting, the ground should be harrowed as often as may be

found necessary to prevent and to destroy the growth of grass and weeds, and for the purpose of more thoroughly mixing the compost with the soil. The whole or a part of the field (as circumstances may direct), should be thrown into ridges with the plow, about 2 1-2 feet from centre to centre of the ridges; and where the patch or field of potatoes is large enough to require the use of the plow in cultivating, the ridges should be crossed with the plow 3 feet apart, which will admit the use of the plow in cultivation, in the widest rows; and if found necessary a small plow can pass in the narrow rows. After the ground is checked with the plow, the hills are made as the sprouts are ready for transplanting, always having a few hills made in advance, to transplant at favorable times, as the planting cannot all be done at one time.—The number of hills to be made must be in accordance with the state of the sprout-bed. If the sprouts are advancing rapidly, the planting should not be delayed; but at the same time, there is nothing gained by making too many hills in advance of the sprouts, as the grass will get a start and give extra labor. The hills ought to be made in regular rows, to admit the use of the plow. In small patches it is not necessary to use the plow only to facilitate the work. It is not important that the hills shall be very regular in shape when first made, as the work after planting the sprout will give uniform shape and size to the hill. *The hill is usually made but little larger than a half bushel measure,* and when ready for planting, a hole is made in the top of the hill with the corner of the hoe.—The time for transplanting in warm, dry weather, is late in the afternoon; water is poured in the hole in the hill, and a single sprout dropped at each hill, and planted by pressing the moist earth close to the sprout, and finished by drawing the loose soil up to the sprout, but not high enough to cover the bud. Another plan is to mix soil with water to such a consistency that the mud will adhere to the sprout, the root of which is dipped in the mixture, and in that condition the sprout is put in the hill and planted as the others. In cloudy weather with a prospect for rain, any time of the day will do to plant out sprouts. If planted in dry weather, the sprouts will want watering, which is best to do late in the afternoon, and to be applied with a watering pot. The sun is apt to dry off and pack the soil, if watered when the sun is shining very hot. When the sprouts are four to six inches high in the sprout-bed, they are ready for transplanting, and as soon as it can be done the better, if the weather and other circumstances are favorable. As the sprouts grow, continue making hills and planting, until the field is entirely planted, the late growing will make good seed potatoes if not fit for the table. It is more favorable for transplanting sprouts when too dry, than when too wet; just before or after a light rain is preferred, if not followed immediately by a hot sun. The after-culture consists in keeping the hills clean of grass and weeds, which must be done to insure success.

The sweet potato should not be neglected in the early growth—frequent workings as soon as the sprouts begin to grow, and continued at regular intervals until the vines cover the hills, and then work lightly to destroy grass and weeds by pulling them out with the hands.—Potatoes mature quicker, when the work is done early—and cease working, as soon as possible after the vines run. The last working is to earth up the hills before the vines spread. If heavy rains follow and wash the soil over the vines so as to cover them, a smooth pole, ten feet in length, must be run between the rows under the vines, gently raising the pole to loose the vines from the earth. It should be used after very heavy rains, to keep the vines from taking root. Vines that take root withdraw a portion of nourishment from the potato in the hill.

The sweet potato is a warm-weather vegetable, requiring a dry soil and a full share of the heat of the sun to bring it to perfection.—Hence the advantages of hills over ridges, and small hills over large ones. Small hills soon become warm and dry by the heat of the sun, and light rains or dews penetrate the hill and invigorate the growth of the root. The potatoes grow more compact, can be dug much faster, and not so liable to be cut by the hoe in digging. As soon as the vines cover the hill no other care is necessary, only to keep the vines from being covered with the earth after heavy rains—and keeping the potato patch free from *moles* and *pigs*.

The cut worms in cold seasons, with early sprouts, are sometimes very destructive. Treat them as the cabbage, kill the worm and replace the sprout.

The sprout-bed is made like most hot-beds, but it is not always convenient to get the materials suitable to make them. As persons differ in their practices, I will give some directions for the inexperienced. The hot or sprout-bed should be located in some sheltered situation where the cold winds are broken off and the sun admitted. During the cold nights the bed must be covered with evergreen bushes, matting, carpeting, straw or boards. After the sprouts appear above ground, poles, strips of boards, or some arrangement to keep the material used for covering the bed from pressing on the sprouts. The mole is very destructive to the seed potato and should be strictly guarded against. It can be done by boxing the sprout-bed at the side, ends and bottom, or catch the moles in traps if they get in the bed. Heavy rains will destroy the warmth of the bed, which must be guarded against; and when the heat is too great, holes must be made in different parts of the bed, and water poured in the holes until the proper temperature is obtained. When the bed is too hot the seed potato rots. The bed requires to be sprinkled with water when dry; and when the bed is cold, warm water is used. A watering pot is the most convenient for sprinkling the sprout-bed.

The sprout-bed for potatoes should be made no wider than the arm can reach to pull out grass and weeds, and pull the sprouts when wanted. If the bed is placed by the side of a building or a fence, three feet wide will be a

good width. If the bed is so contructed that it can be approached on either side, from five to six feet will be the proper width; the length must be determined by the quantity of seed and the size of the seed potatoes. Fresh horse dung taken directly from the stable to the bed is one of the principal materials for a quick hot-bed, but as there is much danger from having the bed too hot, it is better to have fresh straw to mix with the dung. If the ground is high and soil dry, dig a trench about 18 inches deep, put in straw, which should be sprinkled with water, and then stable manure, until the quantity of straw and manure is two feet deep; tramp the bed down hard, sprinkling the bed with water, but not too wet; give the bed an inclination towards the south, some four to six inches lower on the south side, to allow the surplus water to run off and admit the direct rays of the sun. Cover the manure and straw with rich mould to the depth of three or four inches. The bed should be made a few days before the seed potatoes are put down. If the weather is cold, cover the hot bed with straw or some material to keep off the cold; and where it is necessary to *get up a quick heat in the bed*, a deep covering of straw will hasten the heat, which can be ascertained by running the hand under the straw. When it feels warmer than the surrounding earth that is covered by the same, the seed potatoes may be put down, if the season and other circumstances will justify. Take off the straw and prepare the bed for the seed potatoes; lay the potatoes in rows, end to end, but not to touch. The large potatoes should be put by themselves, and have them nearly uniform in size in the rows. If large and small are mixed indiscriminately, the small will be covered too deep or the large potato not deep enough. Each row of potatoes should be from three to six inches apart, according to size. Cover the seed two to three inches deep with rich mould; and whenever a potato is not sufficiently covered, after the ground has settled, put on additional soil. After putting down the bed, and the heat is not too great, cover over with straw, increasing the thickness of the covering as the weather becomes colder, unless the hot-bed feels warm to the hand. It requires constant attention and some experience to learn the proper degree of heat, or to know when to cover the bed lightly or thickly with straw. In moderate weather, with a warm hot-bed, light covering with matting, evergreen bushes or boards, will do to keep off frost. The after-culture of the seed-bed consists in covering, to keep off cold and heavy rains, watering in dry weather; and if the sprout-bed is too warm, water copiously, by making holes and pouring in water, and removing all covering, excepting to guard against frost. Pull the weeds and watch the mole. When seed potatoes are scarce and high, to insure success, divide in two lots and put them out at two different times, some ten or fifteen days between the times of putting them in the bed. Some advantages may be derived, by making the hot-bed warmer at one end, where only one bed is made; this can be done by adding a larger quantity of fresh dung at one end of the bed, and graduating the quantity the whole length of the bed. By these means one end of the bed being warmer will hasten the sprouts at the warm end from eight to fourteen days earlier than the other, thereby enabling the farmer to transplant the sprouts at intervals, without being hurried, and often succeeds in having a choice of seasons for transplanting. It is frequently the case, when all the sprouts are ready for planting at or near the same time, that the early sprouts are injured by frost, when the late ones escape.

In pulling the sprouts for transplanting, one hand is pressed over the potato to keep it firm in its place, whilst the sprout is pulled by the other hand. Never pull more than one or two sprouts off at the same time, and avoid bruising the sprout when pulling, by squeezing it too hard between the fingers and thumb, and if possible, never bend the sprout so as to bruise or break below the bud.

The proper time to prepare the hot-bed can only be determined by the season and the latitude of the place. In the State of Missouri, the difference between her southern and northern limits, there would be a difference in the time of planting from three to four weeks. From the 20th to the last of March, in the southern part of the State, would probably be early enough to put out the seed potato; and in the northern portions of the State, the 20th of April to the 1st of May. In making these suggestions as to the proper time, it is only the supposition of one who has not been long enough in the State, to form a correct estimate of the seasons. The sprouts should not be transplanted in the hills until frost disappears—and it is usually the case where everything is favorable, that the sprouts are ready for transplanting some five or six weeks after the seed potato is put into the seed-bed. These general rules will only do to direct attention to the time of planting. Experience, the seasons, the locality, and the time for the disappearing of frost, must govern the time for putting out seed potatoes. Under favorable circumstances, the sprouts will begin to break the ground in eight or ten days from the time of putting the seed in the hot-bed; at other times three or four weeks is required. To arrive at the proper time for planting all tender crops, every farmer and gardener ought to register the time of planting and gathering in his crops, and the results. It is the only way to arrive at satisfactory conclusions.

The same field may be planted in potatoes year after year, without material deterioration in the crop.

The manner of keeping the sweet potato through the winter season, will be the subject of some future communication. J. S. S.

Marion County, Mo.

Catalogue of Fruits for Kentucky Cultivation. Nursery Agents with Colored Plates.

In a late number of the *Country Gentleman*, I notice that a Kentuckian living near the 38th parallel of north latitude has applied to an editor, whose practical experience of fruit growing has been acquired within a belt of country lying along and near the 43d parallel of north latitude, for a list containing twelve varieties of apples, pears, peaches, and plums, reliable for the latitude of Lexington, Ky. To this application an answer is given in the following words, to wit:

"Pears—Doyenne D'Ete, Tyson Brandywine, Washington, Belle Lucrative, Bartlett, Flemish Beauty, Onondaga, Bellefleur, Lawrence, Urbanist, Beurre D'Anjou.

"Apples—Red Astrachan, American Summer Pearmain, Maiden Blush, Late Strawberry, Fall Orange, Rome Beauty, Pryor's Red, Northern Spy, Yellow Belleflower, Ortley Rambo.

"Peaches—Serrate Early York, Cooledge's Favorite, Crawford's Early, Large Early York, Morris's White, Crawford's Late, George Fourth, Old Mixon Free, Ward's Late Free, Old Mixon Cling, Heath Cling.

"Plums—Lombard, Jefferson, Washington, Lawrence's Favorite, McLaughlin, Smith's Orleans, Reine Clau de Bavay, Purple Gage, Coe's Golden Drop, Bradshaw, Bleeker's Gage."

Seeing that most of the better fruits heretofore planted in Kentucky were grown in Eastern nurseries, and since, also, the principal books treating of the culture and habits of trees have been written or compiled by persons residing at the East, it is not surprising that inexperienced cultivators should look in that direction for all desirable information connected with these subjects not contained in the books. Nor is it much a matter of wonder that so long as we of the West acknowledge this dependence by our acts, certain tree venders should be willing to admit that we are outside barbarians, consenting the same time to send missionaries amongst us for our enlightenment, who, armed with books of life-sized pictures of all leading fruits, with great pomological primers, are ready to undertake to teach any tyro at one sitting the new way of selecting the proper varieties for cultivation without the possibility of mistake; each missionary ready to throw in free charge of any number of assurances that every variety thus selected will in bearing years produce originals exactly as represented in the picture—provided, always, the trees are procured through him! These occurrences are in some degree linked together as cause and effect.

But I do confess that it is to me somewhat a matter of astonishment that an editor of one of the most cautious, able, and well conducted periodicals of the day, a gentleman, who in my opinion has no superior and but few equals as a skillful pomologist, should so depart from his usual caution as to attempt to furnish such a list unprefaced by a doubt as to his possessing the local information necessary for such an undertaking, unaccompanied by a modification amounting even to an alternative, in varieties. I have been long and earnestly anxious, as a Kentuckian, that every move made towards improving the list of fruits for general cultivation in the State, shall be a step in the right direction. I here, therefore, enter my protest against the adoption of the list reccommended, and propose, with your indulgence, to point out some of its defects.

Beginning, then, with the pear, we have Washington, Belle Lucrative, and Onondaga on the list, neither of which is without its fault; whilst White Doyenne and Doyenne Bousock, are both omitted, and yet, if I, who have fruited all these sorts, and some 80 more of those sorts reputed best, were called on to furnish a list of fine pears, good and profitable, which have succeeded in Kentucky, one or the other of these Doyennes would occupy a place in the list.—Again, where is the Seckel in this catalogue? or, what is a catalogue of pears for Kentucky with the Seckel left out? Or, what constitutes a good catalogue for any locality? Must not its varieties be productive, well flavored and hardy? Nobody can doubt the flavor of the Seckel, because, by general consent, it is recognized as the standard of excellency. Neither is there cause to doubt its productiveness, since it bears quite as frequently as any apple; and I know a lot of trees worth, year by year, to their proprietor, when in bearing, from $25 to $33 each. Is the Seckel hardy? How shall we judge? *A Pomologist of varied experience, has said the Pear, as a standard fruit, is capricious in its selection of soil, climate and position* (he ought to have said *treatment* instead of "*position*") *in the United States, and is short-lived unless it shall survive the hazards incident to infancy and early maturity*: and most certainly the fate of the orchard I am about to mention does not contradict the authority I quote.

Thirty-eight years ago an orchard, numbering 400 trees and comprising thirty varieties of Cox's best pears, was planted in this neighborhood. About one-half those trees perished during the first ten years after planting, principally of neglect, and the first winter after the orchard began to be cared for, one-half the remaining trees were killed by unskillful treatment, that is, by baring the roots to extreme cold.—To-day, but fifteen of the four hundred trees survive, viz: Two winter Bergamots, one each early and Red Bergamot, two Bell Pears, four Spice Pears and five Seckels. These Seckels are now about fourteen inches in diameter, with not a branch or leaf blighting since 1844—that is, the Seckel family, parent and offspring, once equaling one-fifteenth of the orchard, now constitute three-fifths of the hardy survivors: yet, in this list, the Seckel is thrust aside for the Tyson, which I admit is sometimes a pretty and well-flavored fruit; but the Seckel is superior in flavor, is quite as handsome, with this notable difference, that so long as the mantle of beauty clothes the cheek of the latter it is unmistakeable evidence that all is fresh and sound beneath the attractive covering, whilst the former, like some painted harlot, often conceals under a fascinating exterior nought but loathsome and disgusting rottenness.

XUM

Of the list of apples, I have little to say. It strikes me, however, that few growers familiar with all the sorts, would give up Early Harvest and Blackburn or Fall Queen for Maiden's Blush and Late Strawberry, and I venture to say our venerable Pioneer Pomologist, of Grass Hills, who has so often and so earnestly recommended Rawles' Janet to a prominent position in every orchard, will start to see his favorite elbowed out of the orchard by the Northern Spy or Ortley fruits—varieties that, though good enough as keepers, in a more northern locality, can hardly be preserved here until the Janet begins to be eatable.

Then the list of peaches—Serrate Early York for Early Tillotson! What Kentuckian could stand this? Why, sir, I know an instance where a crop of sixty Early Tillotson trees raised such a hue and cry in a Kentucky market, and brought such fabulous prices, that the unlucky owner lost his equanimity and was made a confirmed enthusiast, not to say monomaniac, on the subject of peach growing; and after extending his orchards and having them decimated by the casualties to which a fickle climate is incident, he abandoned his home for a residence in the mountains of a Southern State.—Who ever heard of Serrate Early York working such miracles in Kentucky or accomplishing any other purpose (with very rare exceptions) save furnishing food for the Curculio. Again, among early peaches, who, that knows both, would give up Vanzant's Superb and accept Cooledge's Favorite? Or who would cut off the luxury of peach eating, ten days or two weeks, at the end of the season, by throwing away both Smock's Late Free and White's Favorite for Ward's Late Free; and last, though not least, this list utterly ignores the very best clingstone peach in cultivation. I mean that variety grown hereabout under the name of Grand Admirable—a peach not in the books, and one which I have not seen or at least been able to recognize north of Baltimore in the Atlantic States, but which from Baltimore to St. Louis, in its season, ranks among the first in point of excellency. On the tables of the Kentucky Horticultural Society no peach has won more admiration or commanded such exorbitant rates. I recollect an occasion on which a single half bushel, divided into four parcels, brought the round sum of $22.

As for plums, I have nothing to say. Any catalogue for Kentucky is better than Kentucky for the catalogue. The depredations of the Curculio are as nothing when compared with the winter plunges of the mercury. I have cultivated the plum long enough to see that successive generations attain to bearing size and perish in the same orchard; and, although still a cultivator, I am not actuated by any expectation of profit, and entertain but slight hopes of success. L.

The Apiary.

[Written for the Valley Farmer.]

KEEP BEES.

No one, without bestowing considerable thought and attention on this subject, can fully realize the extent of the loss sustained by the country by failing to take care of the blessings liberally bestowed—almost like the manna from heaven. Thousands of tons of honey are annually produced, only to be wasted on the "desert air," all for the want of proper attention in collecting it. The person who fully understands the extent of the loss, must feel very much like an economical farmer who looks upon thousands of acres of wheat, ready for the harvesters, and yet sees it all wasted, because a little forethought was wanting to provide laborers to gather it.

We see an army of laborers go forth to toil in the production of the cane, an immense amount of labor extracts its juice, and reduces it into a palatable sweet. The forests of the North contain acres of maples that furnish materials for a similar product, obtained by an amount of toil, to almost balance its worth when ready for use. But here we have an article that costs nothing to produce it—we are not indebted to China for its origin, nor is the special labor of the husbandman required in its culture. It is produced by forest and lawn, field and garden, even our very road-sides teem with abundance. It is not confined to the South, to the East or West. It is only when we approach the frigid North that we find a failure.

And must the waste of this delectable sweet continue? It must, till people are satisfied that they can make its collection remunerative. Most men have a mission peculiar for something; it may be mine to demonstrate the feasibility of securing to the country its millions now wasting. We can better convince the skeptic of what *may* be done by showing what *has been* done.

In the summer of 1856, there was collected from an estimated area of ten miles square, over 42,000 lbs. of honey. The number of stocks in spring that collected it was about 80; the increase by swarms, after supplying the failures, diseased ones, &c., in the original number, about 400. 22,000 lbs. of this product (including glass boxes), was surplus or box honey, 12,000 lbs. was stored by the new swarms (30 lbs each a low estimate), 8,000 was taken from the old and deficient stocks that

had to be taken up. The amount in the new swarms that took the place of the old ones, and the old stocks for wintering the bees, is not estimated, because it is not available as profit.

Ten miles square being an area of one hundred square smiles, would give one square mile for every eight stocks, thus producing 420 lbs. of honey to the square mile. Taking these results as a basis for an estimate of what is wasted we will see what was produced by this (New York) State alone, which contains 47,000 square miles. Supposing each square mile to produce 420 lbs., we have an aggregate of 19,740,000 lbs. Should we go further, and take the millions of square miles in the United States and Territories at the same rate, or a tenth part of it, it would go a great way towards furnishing us with a sweet in abundance, at least in productive seasons. The probability is that not a tithe of the honey produced on this area of ten miles was collected, if we judge by the number of stocks maintained on a square mile in some parts of Europe. Quotations by Mr. Longstroth state, "In the province of Attica, in Greece, containing forty-five square miles, there are kept 20,000 hives." "East Friesland, a province in Holland, containing 1,200 square miles, maintains an average of 2,000 colonies per square mile."

It should be remembered that the honey secreted by the flowers of to-day must be taken to-day by the bees, or it is forever lost. It is unlike the ungrazed grass of to-day waiting for the feeding ox of to-morrow. The summer of 1857, produced only about one-quarter of the fore-mentioned results. The one season being the *best* and the other the *poorest* we have ever known. The two together would make an average of about 25,000 lbs. that might be exported annually from that number of stocks. To bring this average as a data, what would be the cost per pound? One man can take charge of one hundred stocks, or one-eighth of the whole; but it would require only about two months of his time in the year—yet nearly another month would be required by a mechanic or a man sufficiently skilled to use a hand saw and hammer, to make hives, boxes, &c. Say the labor would be $75, cost of materials $50. Now, if no interest is reckoned for money invested, this honey costs less than four cents per pound. But if we take the price that honey commands in almost any market (20 cts.) the 2250 lbs. (the average amount that 100 stocks would collect) will amount to $650. Deduct the expenses, $125, for labor and materials for hives and boxes, and there will be left $525, for the annual profits of bee culture, which ought to be enough in one season to pay all necessary costs in purchasing stocks to start an apiary of that extent. Several instances are known where the products, aside from the increase of stocks, sold for more than sufficient to pay all charges in care, as well as the original cost of the apiary. This is paying very well for labor and money invested. What pays better? We have shown, conclusively it would seem, that there is sufficient material in the country for extensive operation. We have shown also that its collection is a practical, and at the same time a profitable business. All that now seems wanting to render the product available, is the energy to acquire the requisite skill for proper management. By a few this has been acquired, by patient, persevering effort, sufficient at least to succeed for many years, without any aid but what was gained by experience. It is now quite different. The inexperienced can, if they choose, take the shorter route, by appropriating to their own use, the experience of others, found in the numerous treatises on the subject.

Many a reader will probably acknowledge the truth of the foregoing, but yet exclaim, "Oh, we don't expect to have any *luck*," or "have tried and lost all for the want of it." Discard such an idea. As long as we depend on these accidental chances, so long we must expect accidental success, and remain altogether ignorant of the proper mode of management. This very idea of depending on luck, chance or hap, has done much to retard the science of bee culture. For what is the use of trying to provide against *fate*?—with the majority of bee-keepers, for the reason, even when successful for a short period, nothing of their nature is studied, no reflection on the subject, no experiments or reading is sought for to assist in future operations. No wonder the bee-hive is a "dark subject"—it will remain so, until we can get up a spirit of enquiry sufficient to dispel this almost fatal faith in luck.

And now let me advise all who are hesitating about a trial with this industrious insect, or, have tried and failed to make an effort, *not* to depend on *neglect* or *accident* for success; but on *management, properly applied.*

M. Quimby, St. Johnsville, N. Y.

Note.—The season (1858) produced more than the foregoing average. A few more stocks produced over 18,000 lbs surplus.

BEE HIVES, &C.

"A subscriber" is informed that the best time to remove bees, is while they are dormant, during cold weather. The best hive is a plain box, about 12 or 13 inches square, in the clear. It is as unnecessary to destroy the bees to procure the honey, as it is to kill the cow after giving a full pail of milk. The box-hive serves for breeding purposes and store-honey, and upon the top of these should be placed small boxes or caps, in which surplus honey is stored. These can be taken off at any time when full, and the bees preserved.

As "A subscriber" appears to be unacquainted with the details of the "Apiary", he would save money by sending one dollar to Mr. Quimby, St. Johnsville, Montgomery County, N. Y., and procure the "Mysteries of bee keeping explained," in which he will find the whole "Mysteries" in a nut-shell.

The Home Circle.

TO THE YOUNG LADY READERS OF THE VALLEY FARMER.

I have too frequently been pained to observe in some rural young ladies a species of ignorance in which they seemed to delight, as if praiseworthy, whilst it is really blameworthy. And, we may ask, what ignorance is there which is not blameworthy? It will be the object in these few remarks to call attention to the evil, hoping to correct it in some, and hoping still more to prevent it in others.

Some farmers' daughters affect no knowledge of anything appertaining to the family profession, as if by that, they were really manifesting some superior refinement. Ask what sort of tree is this? "O you must go to the men if you would find out." Ask what bird is that which lit upon the sward or sang upon the tree?—"Well, indeed, I don't know, but I think brother could tell you." Ask whether that growth is flax or spring wheat, and you get a reply about as wise as those just alluded to.

Now I hope my lady readers will not take offence if I tell them, this, and all like it, is not only wrong, but in bad taste and absurd.—Knowledge is power, and ignorance is not bliss, it is not refinement, it is not to be commended. It evinces rather a contraction of mind, and a want of deep, sound judgment. The young lady who learns the name of every tree in the forest, of each flower that sparkles on the prairie, of each bird that adorns the summer, of each grass that gives vitality to animal existence, must observe and think. She must live with open eyes and active mind. She will expand in heart, and in every noble trait and sympathy. She will learn the wonders of nature, and learn the better to look up from nature to the Great Contriver of nature's plan. So Bryant, our nature-loving poet, teaches, in these splendid lines:

> "To him who in the love of nature holds
> Communion with her visible forms, she speaks
> A various language:—for his gayer hours,
> She has a voice of gladness, and a smile
> And eloquence of beauty; and she glides
> Into his darker musings with a mild
> And healing sympathy, that steals away
> Their sharpness, ere he is aware."

Such a young lady will have a mind furnished too well to need to occupy it with dreams of frolics, ribbons and unworthy frivolities. She will find pleasure in something above the newsmongering, local slander, and tasteless small-talk, so dangerously indulged in. Indeed she will become insensibly a real philosopher as she ought to be. I say she ought to be, for look at Humboldt, Cuvier, Kane, Wilson, Somerville, Lincoln, Audubon, who have spent fortunes, endured travels and numerous hardships, to acquire just that knowledge which each young lady, properly disposed, could get as well, and yet so easy as to make the acquisition an almost unconscious effort. Yet these great names are philosophers, only by that same knowledge. Each farmer's daughter then ought to be a philosopher, for she has the means at hand. God has given her the means and the mind to use them. It is certainly in bad taste and in bad heart to sneer upon the works of God, and prefer the fantasies of men to them. I may add that in Europe this affectation is far less common. English ladies, of true blood, know critically the different breeds of cattle, the various soils, &c., and the true polish of manners besides. We beg the attention of our young countrywomen to this important theme, and will allude to it ourselves hereafter. J. H. N.

TO THE GIRLS.

We have lately seen it stated that in one town, four girls were married at the same hour, about eighteen months ago. Two of them have separated from their husbands and the other two are trying for divorce. Such things ought to wake up the girls to a sense of their danger.—Girls talk and laugh about marriage as though it was a jubilee, a jolly, gladsome thing—a rose without a thorn. And so it is, if it is all right, if the parties are suited to each other; if they are prepared for marriage; if they know their duties; if they go about it like rational beings, instead of merry-making children. It is a serious thing to marry. It is a life business and that of your heart and happiness. Therefore never do it in haste; never run away to get married; never steal a marriage; never marry for wealth or standing, or fine person, or manners; but only for character, for worth, for the qualities of mind, and heart, which make an honorable man. Take time, think long and well before you accept any proposal. Consult your parents; some judicious friend, then your own judgment. Learn all it is possible for you to learn of your proposed husband: when all doubts are removed and not till then accept him.

REMEMBER THE AFFLICTED.

The presence and intercourse of the prospered and happy, are too inspiring to good nature to remain unsought. It is deliciously soothing to the nerves, to hover in the presence of such as are free from pain, sorrow and trouble. Care depresses not their spirits, bends the form or wrinkles the brow. No disagreeableness or lack in themselves or surroundings, discordantly protrudes itself upon our pleasant vision. *Sympathy* is all untaxed. Is there any little tanglement or awriness in our own life and mood, it speedily relaxes and smooths under the magnetism of the unruffled pleasantnesses of others. We feel good and happy for the time, as under such influence our own good nature spreads and basks.

These favored ones are ever remembered by all sorts of little prettinesses, compliments, gifts and caresses. Their features are smile-wreathed, spirits elastic, and heart-springs unpressed. With minds care-free to gather knowledge and agreeable thoughts, pleasant chat is ever upon their lips.

It would be ascetecism in us if we refused to bow to the favored shrines, where the many tarry, where everything invites and nothing repulses. It is not unmeet that we brighten and warm ourselves in such sunlighted atmosphere. But sweeter pleasure than this we may taste in our intercourse with our fellow creatures. The flower, the little delicacy, the kind encouraging word, which may be quite unnoted by those on whom they are freely lavished, is to the neglected, sad, sick or weary, a reviving luxury, delightfully enjoyed and sweetly and gratefully remembered.

Where pain, afflictions and heavy cares abide, grave sombreness, and perchance despondency pervade the mind, spirit and features, and the same lack of agreeableness may be found in the surroundings: — shall we therefore withdraw ourselves? We may seek them out and perhaps in no wise enhance our own stock of merriment, intelligence or pleasant reminiscences. Nay, we may be inclined to criticise, but we *see* not the shrinking sensitiveness within that heart, so keenly noting, more quickly than the observer, the confusion, the lack of order and taste about them and which enfeebled strength and energy are impotent to remedy.— They entrench themselves in a timid reserve and taciturnity, becoming for this very sensitiveness but the more uninteresting. In others' presence their sombre quietness but increases and the spirits sink more heavily with the consciousness of having little to give in exchange for kind words and looks. Weary in mind and heart as well as body there is scarcely the "echo of a harp string" to vibrate in return for kindnesses received. But though there is so little to attract, put aside thine own cares and selfishness,

> "——go to him—
> Soothe him with thy finer fancies,
> Touch him with thy lighter thought."

Though you start, as on *duty* bound, you will find pleasure in tarrying. It will be an enjoyment of novel and relishing gusto to see coldness and reserve warm, gloominess brighten, and the pain and sorrow of another even temporarily lulled by your own kindness. Perchance you may even be disappointed in not *witnessing* such effect; reserve and sadness may encrust the feeling of grateful pleasure. But though it break not through the thickness, it is there; and when you have forgotten the act, the warmth you have kindled may grow brighter and brighter and the lonely heart open to hope and genialness.

Is it not better to make another sad one glad than to gladden ourselves in the reflected gladness of the favored and prospered? ELSIE.

Waukesha Wis.

[Written for the Valley Farmer.]

THE SONG OF THE FLOWERS.

We are coming with the Spring-time,
For its soft and genial ray,
Melts the snow-wreath from the mountain,
Driving all the frost away.

Through the long and dreary winter,
In the cold, damp earth we lay,
With a frosty blanket o'er us,
Keeping wind and storm away.

But we heard the tall tree crashing
Close beside our lowly bed,
And the hailstones, thickly falling,
On the dry leaves o'er our head.

Then there came a softer season,
When the sun was out by day,
And the mountain sides were dripping,
And we heard the streamlet's play.

But the frost was still above us,
And we dared not lift our head,
For no cheering ray came near us,
In our dark and silent bed.

So we waited for the spring-time,
With its soft and genial showers;
And we're coming now to crown it,
With a coronal of flowers!

Kansas. CLARA MOORE.

Editor's Table.

OUR RULES.

Subscribers will please to remember that we invariably stop the **Farmer** *when the advance payment is exhausted. Therefore, all who desire its continuance should send on the money for renewal that they may miss no numbers between the expiration of the old and the commencement of the new subscription. They will then have each volume complete.*

The Premiums.

All those who have competed for the premiums offered for obtaining largest clubs of subscribers will confer a favor by immediately sending to us the number of subscribers they have respectively obtained, so that we may compare them with the lists we have already received, that no mistake may occur. The names of the successful competitors will be announced in the May number.

The January Number.

Notwithstanding our edition for the January number was several thousand copies greater than for last year, yet the very great accession of new subscribers to our list has consumed them all, and we are compelled to reprint and put to press the January number. Those subscribers who have not received the January number in due time will be furnished with it.

Premiums on Forest Trees and Farms.

The MASSACHUSETTS SOCIETY FOR THE PROMOTION OF AGRICULTURE has offered a premium of ONE THOUSAND DOLLARS, for the best plantation of forest trees, and a premium of FIVE HUNDRED DOLLARS for the best conducted farm. These offers are in keeping with the liberal spirit which has ever been manifested by this association to promote the interests of the farmer. Its work is in the right direction. It has given a stimulus to every part of the State within the last five years, by its judicious premiums upon dairy stock, and the Essays upon Manures, Agricultural Education and Market Fairs, and its aid to the State Board of Agriculture.

The offer of these premiums upon FOREST TREES and FARMS, will probably be the means of setting a good many trees growing, and brush up and improve many farms that are now excellent, and improve hundreds more by the examples of neatness, system and thrift, which will be established by these inducements to excel. We hope there will be an active competition for the prizes. They are as follows:

1. A premium of $1,000 for a PLANTATION OF FOREST TREES.

"The above sum is offered for the best plantation of trees, of any kind commonly used for, and adapted to, ship-building, grown from seed planted for the purpose, or otherwise, on not less than five acres of land, one white oak at least to be planted to every twenty square yards. Notice in writing must be given to the Secretary of the Society, on or before January 1, 1860, of the intention to compete for the premium, stating where the land is situated, the nature of the soil, and what has been done in relation to the plantation up to the time of giving notice. The premium will be awarded in 1870, in case the success of any competitor has been such as, in the opinion of the Trustees, or of those appointed by them to adjudge the same, or give a reasonable probability that the plantation will produce eventually a fair supply of ship timber, in proportion to the number of acres planted. The Society likewise claims the right, after awarding the premium, to designate from time to time what trees shall be reserved for timber, and the successful competitor shall give security that the trees so designated shall not be cut for any other purpose."

2. A premium of five hundred dollars for the best conducted farm.

"The above sum is offered, in one premium, for the best conducted farm in Massachusetts, of not less than forty acres, taking into consideration the mode of cultivation, farm building, breeding, selection and keeping of stock. Farms devoted to market gardening, will not be admitted to competition. The Trustees reserve the right of withholding the premium, in case no farm offered shall be considered worthy of it, and also of dividing it, in case no one farm shall be considered decidedly the best conducted. Notice of intention to compete for the premium must be given to the Secretary of the Society, on or before the first day of April, 1859, accompanied by the payment of an entrance fee of ten dollars. A written statement, verified by the oath of the competitor, will be required, containing an accurate statement as to the management of the farm, with an account in figures, showing the results of the year's operations. The account to commence on the first day of April, 1859, and to terminate on the thirty-first day of March following. All farms entered for the premiums shall be subject to the visits and inspection of the Trustees or by others appointed by them for the purpose. No Trustee or officer of the Society will be allowed to compete."

THE HORTICULTURAL SOCIETY of Southern Illinois has been invited by the Union County Agricultural Society to hold its next meeting at Jonesboro, on the last Tuesday of May. The Union County Agricultural Society offer to furnish a room and pay all expenses.—We hope to be present and to witness a very interesting and useful meeting. The Horticulturists of the country are awakening to the importance of a free discussion and exhibition of fruits; and great good will result from all such meetings.

Enquiries from Correspondents.

We are always pleased to answer all questions put to us by our subscribers, that come within the sphere or design of the "Valley Farmer." We do this not alone for the information of those who make the inquiries, but the information generally sought is equally desirable and important to hundreds of others. We therefore answer such questions with a double pleasure. It is a matter of some pride to us that we are seldom, if ever, compelled to turn our correspondents over to our subscribers or others to answer, as it is the custom of some, but prefer to rely upon our own experience or the information within our reach.

It is our design to have something to say on most of the leading topics of the farm and garden in their season, but of course it is impossible for us to anticipate all that may be desired by our numerous and constantly increasing readers.

We call the attention of our readers to Mr. Dean's advertisement of Singer's newly invented Family Sewing Machine. This machine is said to surpass all others for family and plantation work—having been constructed with a view to avoid the defects of all other family machines. It is light, graceful and elegant, while at the

same time it has all the power requisite for the heaviest work. It is rapid, easy and graceful in its operation, and cheap withal. Unfortunately the demand exceeds the immense manufacturing facilities readily to supply it.

Another feature in Mr. Dean's advertisement deserves special notice, and we may say commendation:—He offers to send, by mail, free of charge, specimens of sewing done on any machine of Singer's make. This will be a great accommodation to our friends remote from the city, who have only to write to Mr. Dean to be furnished with the best evidence of a sewing machine's value.

The New American Cyclopedia.

The New American Cyclopedia, a Popular Dictionary of General Knowledge. Edited by George Ripley and Charles Dana. Published by Appleton & Co., of New York. It is certainly the greatest work that has ever issued from the American press. This work is being published in about 15 large octavo volumes, each containing 750 two-column pages. Vols. I., II., III., IV. & V. are now ready, each containing near 2,500 original articles. An additional volume will be published once in about three months.

Price in Cloth, $3; Sheep, $3,50; Half Mor., $4; Half Russia, $4,50 each.

The New American Cyclopedia is popular without being superficial, learned but not pedantic, comprehensive but sufficiently detailed, free from personal pique and party prejudice, fresh and yet accurate. It is a complete statement of all that is known upon every important topic within the scope of human intelligence.—Every important article in it has been specially written for its pages by men who are authorities upon the topics of which they speak. They are required to bring the subject up to the present moment; to state just how it stands NOW. All the statistical information is from the LATEST reports; the geographical accounts keep pace with the latest explorations; historical matters include the freshest just views; the biographical notices not only speak of the dead, but also of the living. It is a library itself. The 4th volume has been laid upon our table by Chas. A. Bailey, agent for the work, 94, 4th St., St. Louis, Mo.

LIFE OF GEORGE WASHINGTON.—We are indebted to Messrs. Bill & Brother, Publishers, Louisville, Ky., for an illustrated copy of the life of Washington, by J. T. Headley. This work is executed in the most perfect style of the art, adapted to the popular taste, and is supplied to agents in any part of the west by the publishers.

THE AMERICAN JOURNAL OF SCIENCE AND ARTS.—This valuable publication has now reached its SEVENTY-SIXTH volume, one of the oldest and best works devoted to Science and Arts in the world. It is conducted by Profs. B. Silliman, B. Silliman, Jr., and James D. Dana, in connection with Prof. Asa Gray, Prof. Lewis Agassiz, of Cambridge, and Dr. Wolcott Gibbs, of New York, whose names are sufficient to denote the high character and standing of the work. All lovers of science should subscribe for it. Published the first of every second month at $5 00 a year. Address Professors Silliman & Dana, New Haven, Conn.

The Hemp Crop, &c.

One of our subscribers in his letter renewing his subscription, thus speaks of the Hemp crop.

The farmers in this section of country have most of their hemp ready for market, which enables us to speak with certainty about the crop just going into market.—So far as my knowledge extends, and that is only in the counties of Clay, Platte and Buchanan, I can assure you that not more than half a crop will be realized. In the first place the crop of hemp was very short, and in the second place there is a great waste in the cleaning.

EDS. VALLEY FARMER.—Please announce in your next paper that the fifth annual fair, of the Pike County Agricultural and Mechanical Association, will be held on the 3d Tuesday in September next and continue four days. And thereafter will be held permanently on the Tuesday after the third Monday of September in each year.

A premium list, amounting to about $2,000, will be distributed at the next fair, and every accommodation and comfort will be afforded to exhibitors and visitors.

Members of the press generally are invited guests.

By order of the Board, WM. BOLTON, Sec.

BOWLING GREEN, Mo., March 21, 1859.

The House.

A Pocket Manual of Rural Architecture; or, How to Build Country Houses and Out-Buildings. Embracing the Origin and Meaning of the House; the Art of House-Building, including Planning, Style and Construction; Designs and Descriptions of Cottages, Farm-Houses, Villas and Out Buildings of various cost and in the Different Styles of Architecture, etc.; and an an Appendix, containing Recipes for Paints and Washes, Stucco, Rough Cast.; and instructions for Roofing, building with Rough Stone, Unburnt Brick, Balloon Frames, and the Concrete or Gravel Wall. By the author of "The Garden," "The Farm," etc.—With many Original Designs. New York: FOWLER & WELLS, Publishers, 308 Broadway. Price, in paper, 30 cents.; in muslin, 50 cents.

This work closes the popular series of Rural Manuals to which it belongs, and we greatly mistake if it be not destined to command even a more generous patronage and a wider circulation than those favorites of the public, "The Garden," "The Farm," and "Domestic Animals," which have preceded it. It is, like them, a thoroughly practical work, WRITTEN FOR THE PEOPLE, in a style which the people can understand; and while containing everything that one will expect or desire to find in such a work, is brought by its size and price, within the reach of all.

The hints on house-building, contained in the second chapter, are alone worth many times the price of the whole book.

The designs, commencing with a log cabin, embrace houses of all degrees of cost (particular attention being given to those of low price, such as the great mass of the people most want), and of every desirable style of architecture. It is designed for all parts of the American continent, and contains Southern as well as Northern houses.

Barns, stables, poultry-houses, piggeries, ash-houses, ice-houses, and other out-buildings, have also very properly a place in this little book; and some admirable designs, especially for barns and stables are given.

No one who ever expects to build, if it be only an ice house or a cistern, should fail to consult this manual.—It might well have been entitled, "Every Man His Own Architect."

The series of "Rural Manuals" to which this belongs—"The House," "The Garden," "The Farm" and "Domestic Animals"—will be furnished to subscribers ordering them at once, in paper for $1, in cloth for $1 75.

The whole series, bound in one large, handsome gilt volume, under the title of "Illustrated Rural Manuals," may be had for $1 50. Address

FOWLER & WELLS,
308 Broadway, New York.

To Advertisers.

We respectfully call the attention of Advertisers to the VALLEY FARMER as an advertising medium. Having been published in St. Louis, the great emporium of the West, for Ten years past, it has become thoroughly established, and now numbers its thousands of subscribers in every Western State. It is, without doubt, to Manufacturers of Implements and Machines, Nurserymen, Dealers in Seeds, Book Publishers, and advertisers generally, the very best medium for reaching the reading, thinking, enterprising farmers, gardeners, fruit growers and stock raisers of the great Mississippi Valley. It has had no other agricultural paper to compete with it, and therefore has the entire farming patronage. All advertisements appear both in the Louisville, Ky., and St. Louis, Mo., editions. Advertisers at a distance will send their favors to the St. Louis office.

Evergreens.

WHITE PINE,
NORWAY SPRUCE,
SCOTCH PINE,
AUSTRIAN PINE,
SIBERIAN ARBOR VITÆ,
AMERICAN ARBOR VITÆ.

The above evergreen trees are of various sizes, from one foot to six feet high, and are now grown in my Nursery, well furnished with fibrous roots, and sure to live if properly transplanted. Now is a good time to transplant them. Call at my Nursery and examine them. CAREW SANDERS,
Aprilit. St. Louis Nursery.

WILSON'S ALBANY STRAWBERRY

I have for sale several thousand plants of this unsurpassed strawberry. Having fruited it in the West, I have no hesitation in stating, that in point of size, productiveness, hardiness and general good qualities, it stands at the very head of the list of strawberries for the West. For market purposes it has no equal.

PLANTS WARRANTED GENUINE.

April is the very best month of the year for transplanting it. The plants are now growing in my nursery, and roots consequently fresh and sure to live.

PRICE, $4 PER 100 PLANTS.

ALSO FOR SALE,

Peabody's Seedling Strawberry.

Plants originally obtained from Mr. Peabody of Georgia. Persons wishing to try this new seedling, (the same which was engraved for the Patent Office Report for 1856,) can be sure of obtaining the genuine plants from me. Price $4 00 per 100. I have also a few thousand plants of McAvoy's Extra Red for sale. Price $2 00 per 100.

Plants carefully packed and delivered to any Express Office, or elsewhere, in St. Louis, free of charge.

CAREW SANDERS,
ST. LOUIS NURSERY.

COX & ROBERT'S
Patent Thresher and Cleaner.

This Machine received the first premium at the last Fair of the St. Louis Agricultural and Mechanical Association, for being the best FOUR HORSE POWER THRESHER AND CLEANER on exhibition—IT HAVING THRESHED AND CLEANED MORE WHEAT, IN BETTER STYLE, IN A GIVEN TIME THAN ANY OTHER FOUR OR EIGHT HORSE POWER MACHINE ON THE GROUND. Our LEVER CABIN HORSE POWER was awarded at same Fair the GRAND GOLD MEDAL OF HONOR. For further particulars see last page of cover, present number.

KINGSLANDS & FERGUSON.

DENTAL NOTICE.

DRS. FORBES & BURGH, DENTISTS,
Continue the practice of their profession as heretofore, at No. 51, Sixth Street,
One door South of Olive St.,
March 1, 1859—1y. St. Louis, Mo.

FRUIT TREES
&C.,
For Western Missouri.

LAFAYETTE NURSERIES
F. MOCK & CO.,

Offer for sale at their Grounds, (suburbs city of LEXINGTON, MO.,)

APPLES—Standard and Dwarf, (Summer, Fall and Winter,) of the best varieties, suited to this climate, 2 and 3 years old..... 20 cents.
PEACHES—Early and Late, Cling and Freestone, 1 to 3 years old..... 20 cents.
PEARS—Standard and Dwarf, best varieties, 2 and 3 years old..... 60 cents.
CHERRIES—Standard and Dwarf, best varieties, 2 and 3 years old..... 50 cents.
PLUMS—Standard, best varieties, 1 to 3 years old..... 50 cents.
APRICOTS—NECTARINES—QUINCES—Best varieties, 2 and three years old..... 50 cents.
Also, a great variety of small fruits, such as Raspberries, Strawberries, Blackberries, Currants, Gooseberries, English Walnuts, Grape Vines, Rhubarb, &c., &c.

ORNAMENTAL TREES.

EVERGREEN—Arbor Vitæs (American, Siberian and Chinese,) Red Cedar, Juniper, Balsam Fir, Silver Fir, Norway Spruce, Red American Spruce, White Spruce, Hemlock Spruce, White Pine, Austrian Pine, Scotch Pine, English Yew, Box Tree, Mahonia, Euonymus (silver striped), &c.
DECIDUOUS TREES—Larch (Pine), Maples (Sugar and Silver), Catalpas, Horse Chesnuts, Laburnums, Lindens, Mountain Ash, Elms, Tulip and Poplar Trees, Willows (various kinds), &c.
WEEPING TREES—Ash, Birch, Linden, Elm, Poplar and Willow.
FLOWERING AND CLIMBING SHRUBS—Althea, Deutzia, Calycanthus, Flowering Currant, Flowering Almond, Lilacs, Spiræ, Syringas, Weigelias, Strawberry Tree, African Tamarix, &c.
April6t.

COTTAGE GARDEN,

Cincinnati, Ohio.

CHOICE GREEN HOUSE PLANTS.

The Proprietors respectfully solicit the attention of the public to their fine stock of Green House and Bedding-Out Plants, Roses, Verbenas, Fuchsias, &c. They would call particular attention to their splendid stock of Verbenas, consisting of the newest and most approved varieties in cultivation. They particularly call the attention of plant dealers to their immense stock of plants, grown expressly for the trade. They can offer inducements to those wishing to purchase in large quantities, which will make it their interest to give them a call before purchasing their supplies. To amateurs wishing choice assortments, they feel confident they can give entire satisfaction. SAYERS & HUTCHINSON,

April2t.* Proprietors.

☞ Plants packed carefully for distant transportation.

Short Horn Herd at Auction.

Having sold my farm at Chestnut Ridge, Dutchess county, N. Y., I will offer for sale at auction, my entire Herd of **Short Horn Cattle,** consisting of about thirty-five head of superior animals. Among them will be the unrivalled bull, HIGHFLIER, 578; also, stock sired by him, as well as the EARL OF WARWICK, 465. The sale will take place at Dover Plains, on the New York and Harlem Railroad, on the 10th day of May next, at 12 o'clock.

Catalogues of Pedigrees may be had after the 10th day of March, at the offices of the "American Agriculturist," New York, "Country Gentleman," Albany, "Ohio Farmer," Cleveland, "Boston Cultivator," and of the subscriber, SAMUEL T. TABER,

Mineola, Queens Co., N. Y.

P. S. No animals will be disposed of before the sale at auction. Mar.2t.

FOR SALE

At the Franklin Grove Nursery,

50,000 Root Grafts.
100,000 1 year old Apple trees.
100,000 2 " " " "
20,000 3 " " " "
100,000 4 " " " "
100,000 Apple Seedlings, 6 years old.
Osage Plants, 1 and 2 years old.

Ornamental Trees of every description. Green House and hardy plants. Pie plant. All of which I am determined to sell at low prices, either for cash or on six months time. A. R. WHITNEY.

March3m.

THE MORGAN HORSES,

"BLACK HAWK PRINCE," "MORGAN HUNTER," and "GENL. BARKER," will stand for the season at "Castor Hill," two miles west of the Fair Grounds, on the Natural Bridge Plank Road. Also the imported draft stallion, "Norman," imported by the Belgian Consul,, C. S. Hunt, Esq., will stand at the same place.

Terms for the Season.

For "Black Hawk Prince,"	$40 00
"Morgan Hunter,"	25 00
"Genl. Barker,"	20 00
"Norman,"	15 00

☞ Good pasturage at the usual rates.

March 4t. CHAS. SEMPLE.

Native Evergreens.

The subscriber is prepared to furnish for nurseries. Evergreen Plants, 5 to 12 inches high, at $7 per 1000. The varieties are Balsam Fir, Arbor Vitae, White Spruce, Hemlock and White Pine. Only vigorous young trees are selected, and particular care is taken to remove the roots in a damp state by packing them immediately in damp moss. No charge is made for packing.

Address JAMES A. ROOT,

March2t. Skeneateles, Onondaga Co., N. Y.

Plaster of Paris---Hydraulic Cement.

The undersigned are prepared to furnish by the barrel land plaster, or plaster of Paris, to Farmers, at as low rates as any one in the West. The value of plaster, as a fertilizer, has long been known, and farmers would do well to try it. We also keep on hand the best quality of Hydraulic Cement for making cisterns. Address,

J. C. WILSON & CO.
No. 95, Washington Avenue,

Aprill1t. St. Louis, Mo.

Bloomington, Ill., Nursery.

Grafted apple, 1 year, $4 per 100, $25 per 1000; 2 years, 3 to 5 feet, $8 per 100; 2 to 4 years, 5 to 7 feet, 15 cents apiece, $12 1-2 per 100; Rebecca, Delaware, Diana, Concord, Hartford Prolific, Herbamont, Hyde's Eliza Grapes, 7 for $9. 1 year Red Currant, $3 per 100, $25 per 1000. Houghton Gooseberry, strong, $1 per doz., $60 per 1,000. Wilson's Albany strawberry, $2 per 100. Asparagus, 1 year $2 1-2 per 1000. Prince Albert potato, 60 cents per peck. Osage Orange, 10,000 for $20. Apple Root grafts, 10,000 for $60. Greenhouse, Garden, Bedding out Plants, &c. Terms CASH. New Catalogue out. Stamp not refused.

March1t. F. K. PHOENIX.

GREAT VALLEY NURSERY,

On N. Y. & E. R. R., Cattaraugus Co., New York,
50 Miles East of Dunkirk.

Arbor Vitæ, Hemlock, Spruce, White Pine, Balsam Fir, from forest, under 1 foot, $7 per 1,000, $60 per 10,000. The three former, nursery grown, $30 per 1,000; Scarlet and Sugar Maple seedlings, from Forest, 5 to 12 inches, $3 per 1,000, $20 per 10,000.

Good packing without extra charge.

Terms CASH. Orders received and Catalogues fowarded by F. K. Phoenix, Bloomington Nursery, Ill., where also the above plants will be delivered if desired at 1-2 per cent additional. S. T. KELSEY & Co.

Mar.tf.

NEW ROCHELLE or LAWTON BLACKBERRY PLANTS.

The subscriber having 2½ acres of the above plants in cultivation at the St. Louis County Fruit Garden, situated at Eureka Station, P. R. R., is prepared to fill large orders the ensuing Fall and Spring at the following Eastern prices: 100 plants $10,00, 50 plants $6
25 " 3,50, 12 " 2

Packed and delivered at any Express office in St. Louis, free of charge.

The money should accompany the order.

Address JOHN S. SEYMOUR,

March2t. Allenton, St. Louis County, Mo.

IMPORTANT TO DAIRYMEN AND STOCK FEEDERS.

WYMAN, RENICK & CO.'S COTTON SEED OIL MEAL.

The most palatable, nutritious and economical food for HORSES, CATTLE, SHEEP, HOGS, POULTRY, and stock of all kinds, especially for

Milch Cows and beeves for Market.

Price reduced from $30 to $20 per ton.

For sale at our PATENT PRESS OIL WORKS, corner of Second and Columbia streets, above the Shot Tower.

☞ Scores of testimonials on view at our office.

Feb.tf. WYMAN, RENICK & Co.

100,000 WILSON'S ALBANY STRAWBERRY FOR SALE.

This is certainly the most valuable variety we know of. The size and quantity of fruit it produces is astonishing. The fruit is firm and the flavor good, making it one of the best and most profitable market strawberries ever sent out. Price of strong plants $2 per 100; 500 for $7 50; $10 per 1000.

Also a large assortment of Fruit and Ornamental Trees, Vines, &c, &c. 20,000 1 year old, very strong imported Pear stocks, $12 per 1,000. Catalogues free.

Address JOHN SLOAN,

E. CORNING, Jr.'s Nursery.

Feb.3t. Albany, N. Y.

FRUIT TREES FOR THE WEST!

CAREW SANDERS of the ST. LOUIS NURSERIES.

Situated FIVE MILES WEST OF ST. LOUIS, on the OLIVE STREET PLANK ROAD, offers the following choice and excellent varieties of Fruit Trees and Plants to Western Farmers and Fruit Growers, at the following prices:

APPLES.

Standard Trees, three years old, very fine, $20 per Hundred, or 25 cents each.

SUMMER VARIETIES.	AUTUMN VARIETIES.	WINTER VARIETIES.	
Red Astracan,	Maiden's Blush,	Yellow Bellflower,	Rome Beauty,
Benoni,	Fall Pippin,	Northern Spy,	Newtown Pippin,
Large Sweet Bough,	Hawley,	Wine Sap,	Esopus Spitzenberg,
Early Harvest,	Jersey Sweet,	Golden Russett,	Norton's Melon,
Early Strawberry,	Rambo,	White Pippin,	Tomkins County King,
Golden Sweeting,	Fameuse,	Jeneton,	Jonathan,
Summer Sweet Paradise,	Gravenstein,	Pryor's Red,	Baldwin,

PEACHES,

Price $20 per Hundred, or 25 cents each. Trees large and fine.

Crawford's Early,	Old Mixon Freestone,	Cook's Seedling,	Troth's Early,
Crawford's Late,	Red Cheek Melacaton,	George the IV.	Ward's Late Free,
Early York,	Heath Cling,	Coolidge's Favorite,	Large White Cling,
	Large Early York,	Red Orange Free,	

PEARS,

Standard Trees, 50 cents each; Dwarf Trees on Angers Quince Stocks, very superior, bearing first or second year after planting, 50 cents each.

Bartlett,	Beurre d'Anjou,	White Doyenne,	Stevens' Genesee,	Easter Beurre,
Bloodgood,	Belle Lucrative,	Flemmish Beauty,	Swans' Orange,	Kirtland,
Tyson,	Duchess d'Angouleme,	Louise Bonne de Jersey,	Glout Morceau,	Paradise d'Automne.
Buffum,	Doyenne Boussoch,	Seckel,	Lawrence.	

CHERRIES,

Standard Trees 50 cents each.

Knight's Early black,	Coe's Transparent,	Napoleon Bigarreau,	Early May,
Black Eagle,	Elton,	Yellow Spanish,	May Duke,
Black Tartarian,	Gov. Wood,	Carnation,	Belle de Choisy,

PLUMS, APRICOTS, NECTARINES, QUINCES, Best varieties 50 cents each.

RASPBERRIES,

Red Antwerp,.....15c each English Purple....15c each American Black....10c each Brinckle's Orange 20c each.

STRAWBERRIES,

Longworth's Prolific, McAvoy's Extra Red, Washington, $2,00 per hundred plants.
Wilson's Albany, Peabody's Seedling, $4,00 per hundred plants.

The LAWTON BLACKBERRY,

$2 per Dozen; three Dozen $5, and $10 per Hundred. Plants fine and Strong.

CURRANTS,

Price 25 cents each.

White Dutch,	White Grape,	Knight's Sweet Red,	Red Dutch, one year old,
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The Houghton Seedling is the best variety cultivated—never mildews, and bears enormously. Price 15 cents each.

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All articles ordered will be delivered in St. Louis at the steamboat landing or at any railroad depot, free of charge. Each box or package will be carefully marked with the name and residence of the party making the order, and shipped as directed, but after the shipment they will be at the risk of the purchaser.

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